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# USSR Report

## ECONOMIC AFFAIRS





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# USSR REPORT
## ECONOMIC AFFAIRS

## CONTENTS

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

# ECONOMIST EXAMINES MANAGEMENT IN NONPRODUCTIVE SECTOR

Moscow EKONOMICHESKIYE NAUKI in Russian No 10, Oct 83 pp 42-51

/Article by L. Yakobson, candidate of economic sciences: "Mechanism of Management in Nonproductive Sphere"/

/Text/ The November (1982) Plenum of the CPSU Central Committee stressed the need "to speed up the work on improvement in the entire sphere of economic management--control, planning and the economic mechanism."[1] This statement also fully applies to the nonproductive sectors of the national economy. Improvement in planning, financing and stimulation of labor in these sectors is an important condition for an increase in the efficiency of their development. The solution of problems arising in this connection is inseparably related with the entire set of measures to bring the economic mechanism in correspondence with the requirements of the present stage in communist construction.

The extensive utilization of economic methods in the control of the nonproductive sphere makes it possible to raise the problem of the mechanism of management in this sphere as an integral part of the economic mechanism of socialist society. At the same time, when it is a question of nonproductive sectors, the relationship between the mechanism of management and the control system seems more complex than in material production.[2]

An important feature of the control of nonproductive sectors lies in the fact that often it is directed toward the regulation of processes occurring in the sphere of superstructure and public consciousness. Economic factors, that is, factors directly expressing production relations, evidently, play a different role here than in the sphere of production of material wealth. Of course, in material production control is also connected not only with the elements of the economic basis, but with certain superstructure phenomena as well. However, here this is reflected primarily in the tools of control, whereas in the nonproductive sphere, in its object itself.

The specific nature of the mechanism of management in the nonproductive sphere is determined by the characteristics inherent in its economic relations. These are derivative, transferred economic relations. Ultimately, they represent social forms of movement of material wealth beyond material production proper. At the same time, the nature of economic relations of the nonproductive sphere should not be understood in a simplified way. In particular, the position of

individual authors, who consider the relations of distribution, exchange and consumption of material wealth in nonproductive sectors economic (productive) and, at the same time, deny their existence "in the sphere of labor activity, be it a spiritual activity, or the process of rendering nonmaterial services," seems contradictory.[3] The distribution, exchange and consumption of material wealth in the nonproductive sphere are inseparably connected with the labor activity of its workers. Precisely because the movement of the material product is carried out here in the course of labor activity and is mediated by labor (although in this case the creation of new material wealth does not become the objective and result of labor), economic relations are reproduced in the nonproductive sphere.

The fact that these economic relations directly affect the labor activity of workers seems important for the evaluation of the importance of economic methods in the control of nonproductive sectors. As applied to these sectors the economic aspect of control sometimes is identified with the control of the processes of operation and economic servicing of their material and technical base. Meanwhile, practice demonstrates that such economic tools as plan, wages, price and profit play an important role in the control of the labor of workers in the nonproductive sphere (its distribution according to types of activity, intensity and effectiveness).

At the same time, it must be again stressed that economic relations, which also means the mechanism of management in nonproductive sectors, are genetically connected with the distribution, exchange and consumption of material wealth. Therefore, the functions, methods and specific acts of control acquire an economic nature in the nonproductive sphere to the extent that they affect the processes of movement of the material product.

The economic aspects of control of nonproductive sectors can be separated from "noneconomic" ones only conditionally. However, if it is a question, for example, of a theatrical entertainment enterprise, it can be stated that the economic principle in the planning of its activity is realized mainly in the development of a production and financial, not repertory, plan. The production and financial plan embodies the economic approach to planning, because it directly connects the activity of the theatrical collective with the movement of monetary assets, which in turn serves as the expression of the processes of distribution, exchange and consumption of material wealth.

The derivative nature of economic relations of the nonproductive sphere and their dependence on the processes of movement of the material product must be kept in mind when evaluating the state of and prospects for improvement in the mechanism of management in nonproductive sectors. Thus, one can hardly agree with authors who believe that the distribution of the results of labor in free service sectors is right now made in accordance with the needs.[4] In reality the existing mechanism of distribution of public education or health services does not yet ensure a complete and uniform satisfaction of the needs of the country's population. The possibilities of improving this mechanism are limited by the level of development of material production.

The distribution of services depends on the technical and socioeconomic conditions of rendering them and the latter are determined by the conditions of production, distribution and consumption of material wealth. In order to fully meet the needs for services, nonproductive sectors should not experience limitations in resources. This is possible only under conditions of abundance of material wealth. In this case it is clearly seen that economic relations of the nonproductive sphere determining the specific possibilities of its economic mechanism cannot outstrip in their development the deep relations formed directly in the sphere of material production.

Along with the derivative nature of economic relations the characteristics of the processes and results of labor play an important part in the formation of the specific features of the mechanism of management in the nonproductive sphere. As a rule, in this sphere labor is aimed directly at man. On the whole, it is distinguished by a more creative nature and by higher requirements for workers' skills as compared with labor in the sphere of material production. Labor processes in nonproductive sectors often do not lend themselves to unification, which complicates the task of their mechanization and, moreover, automation. Usually, the results of labor in these sectors do not assume the form of things. The processes of their creation, realization and consumption coincide in time and space.

The enumerated characteristics of the nonproductive sphere are inherent in its sectors to a different degree. For example, in public education, science and culture they are manifested much more distinctly than in housing and municipal facilities or in domestic services. Accordingly, the specific features of the mechanism of management characteristic for the nonproductive sphere are represented with varying completeness and clearness in its different sectors. They are most perceptible in the sphere of social and cultural services. Here it is possible to observe them in a relatively pure form, whereas in the sphere of municipal and domestic services there is a distinctive combination of the forms and methods of management reflecting the specific nature of nonproductive types of activity with those that are rather typical of material production.

The mechanism of management in the nonproductive sphere represents an organic unity of specific forms, methods and tools of economic management. Each of its elements bears the imprint of the above-noted characteristics of the examined sphere and develops in close interconnection with other elements. At the same time, all of them are directly included in the total structure of the economic mechanism of socialist society. The joint subordination of the structural links of the mechanism of management in the nonproductive sphere is determined by the relationship of the corresponding links of the mechanism of functioning of the entire socialist economy.

"National economic planning is the beginning of all beginnings in control,"[5] the 26th CPSU Congress noted. In the nonproductive sphere, as in the sphere of material production, planning forms the central link in the mechanism of management.

Assignments in the field of development of nonproductive sectors form an organic part of national economic plans and are coordinated with its other assignments both along the line of formation of resources and along the line of

meeting the needs of the population, enterprises and organizations. Therefore, the measures envisaged by the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" play an important role in the improvement in the planning of the nonproductive sphere.

The planning of the development of nonproductive sectors at the present stage acquires an overall nature ever more distinctly. Intersectorial relations brought about by the joint participation of various links of the nonproductive sphere in the solution of common socioeconomic problems become closer. Beginning with the current five-year plan state plans for the economic and social development of the USSR, Union and autonomous republics, krays, oblasts, cities and rayons, as well as ministries, departments, enterprises and organizations, include consolidated sections for a set of measures in the field of social development. These sections envisage, among others, measures for a rise in the educational and cultural level and improvement in housing and cultural-domestic conditions, medical services for the population and so forth.

The development of individual sectors and subsectors of the nonproductive sphere both on the scale of the country and of its individual regions is mutually dependent. Often various types of services are interchangeable to some extent. For example, various links of sectors ensuring the organization of the population's leisure, that is, theatrical entertainment and sports entertainment enterprises, clubs, museums, motion picture theaters and so forth, "compete" among themselves. Often they are subordinate to different departments. Essentially, the development of each subsector is now planned separately on the basis of calculated standards of the population's provision with these types of services. Such an approach is justified if it is a question of short-term planning. Long-term planning presupposes orientation toward an optimum combination of various forms of organized and unorganized leisure. In other words, there is a need for an overall plan for the development of the "leisure industry" based on scientifically substantiated recommendations concerning the structure of free time. A definite forward step in this direction has been made, in particular, during the preparation of "Methodological Directives for the Drawing Up of Overall Plans for the Development of Cultural Services for the Population of Autonomous Republics, Krays and Oblasts in the RSFSR" in effect from 1980. Such a procedure should also be extended to other republics.

In our opinion, a transition to an overall planning of a public health system in the broad sense, which implies the totality of measures directed toward the protection and strengthening of human health, is also advisable. They include not only medical aid, but also the development of physical culture, prevention of the pollution of air and water basins, steps for the prevention of traffic accidents, measures in the field of labor safety techniques and many others. Within a comparatively short period of time dissimilar measures cannot be considered interchangeable. However, if it is a question of a long-term period, it is advisable to search for the most efficient ways of reducing losses resulting from morbidity and of increasing the average life span of the population, directly taking into consideration the interaction of various links of the public health complex.

Intensification of the overall approach to the planning of the development of the nonproductive sphere will contribute to a more systematic orientation of plans toward the attainment of the end social effect. It should be noted that in the plans for the development of nonproductive sectors indicators reflecting the results of activity often either are absent, or are calculated. In any event they do not play here the key role that belongs to indicators characterizing the volume of output in the planning of material production.

The development of nonproductive sectors is planned by means of representative characteristics (basic indicators), many of which reflect primarily the scale of the utilized resources, as well as the capacity and throughput of enterprises and institutions.[6] In the future direct characteristics of the results of activity, evidently, will find a more detailed reflection in plans. Nevertheless, it will hardly be possible to avoid the "indirect" planning of the effect, because it is organically connected with the objective characteristics of the nonproductive sphere.

In this case by the "indirect" planning of the effect we understand the planned provision of the most favorable conditions for its growth. The plan envisages the optimization of the scale and structure of resources, as well as of the directions in the activity of sectors, enterprises and institutions of the nonproductive sphere. However, the concluding stage in the formation of the socioeconomic effect is not always fully expressed by the approved indicators. This is due to a number of reasons.

First, a specific "program of work" in nonproductive sectors often is formed under the effect of changing consumer needs, whose detailed forecasting at times is impossible or inadvisable. For example, the load on general health institutions sharply increases during periods of epidemic outbreaks of a disease. Therefore, here planning is quite naturally oriented toward indicators reflecting the ability to meet the population's needs as they occur (number of hospital beds and capacity of outpatient-polyclinic institutions). It is characteristic that even in domestic services plans determine primarily the volume of work in monetary terms (broken down by subsectors), which ensures the possibility of selection of specific services by the consumer.

Second, the number and, especially, the quality of services often lend themselves with difficulty to control by means of report indicators. The qualitative aspect of activity in the sphere of education, science, culture and public health can be reliably evaluated mainly by means of a direct expert opinion based, as far as possible, on formalized evaluations, but by no means replaced by it.

Apparently, a situation in which the centralized control of the efficiency and quality of work is expressed primarily in the formation of objective prerequsities for the attainment of a proper socioeconomic effect (establishment of a network of institutions and their provision with resources) and in the elaboration of the general requirements that this effect should meet can be considered characteristic for the nonproductive sphere. Furthermore, standards of management defining the rights and responsibility of enterprises, institutions and control bodies in the area of utilization of resources, economic incentives and so forth are established in a centralized manner. As to the rest

the initiative of labor collectives, whose mobilization presupposes a certain degree of economic independence and the presence of a system of levers and incentives ensuring the unity of economic interests of the collective and society, plays an exceptionally big role.

In the sphere of material production an organic combination of the plan and economic initiative is attained primarily by means of an extensive utilization of cost accounting. It finds a lesser application in the nonproductive sphere. Cost accounting enterprises predominate mainly in the sectors of this sphere that occupy an intermediate position between it and material production (in housing-municipal and domestic services, passenger transport and so forth).

Cost accounting in nonproductive sectors is distinguished by a number of characteristics.[7] For example, owing to the relatively low capital-output of services, cost accounting levers of a rational utilization of fixed capital play a much smaller role here than in material production. It is not accidental that, as a rule, the profitability of cost accounting enterprises of the nonproductive sphere is calculated in relation to the production cost of services, not to the value of capital. In many cases these enterprises do not make the payment for capital. A considerable part of them are completely exempt from payments to the budget (at the same time, the usually determined share of profit remains at the disposal of the enterprise and the other is transferred to the sector's superior links).

A broad variation of prices and of the profitability of the same types of services throughout the country's territory is typical for the nonproductive sphere. It is determined by the local nature of demand for services, which, in contrast to material wealth, in their nature do not lend themselves to storage and transportation. The localization of demand places paid service enterprises located in large settlements in a preferential position. This is only one of the factors causing a significant differentiation of the objective conditions of the functioning of cost accounting links of the nonproductive sphere and explaining the low profitability or even unprofitableness of a large number of enterprises. The high social significance of many types of services, whose prices, in conformity with the plan, are maintained at a low or preferential level, is another factor. In particular, housing services, individual types of domestic and municipal services, services of theatrical entertainment enterprises (with the exception of circuses) and so forth are sold at preferential prices, that is, prices not covering costs.

Finally, it should be noted that an unstable, declining profitability is often characteristic even for the links of the nonproductive sphere that operate under self-support conditions. For example, during the years of the 10th Five-Year Plan the profitability of circus enterprises declined from 31.3 to 16.1 percent.[8] Similar tendencies are observed, for example, in cinematography and in a number of subsectors of municipal and domestic services. This is due to a number of reasons, among which the high labor intensiveness of services, which, as a rule, do not lend themselves to a significant reduction by means of mechanization or automation of services, plays the basic role. In most nonproductive sectors wages predominate in the structure of expenditures. Their systematic growth under conditions of a relatively stable labor intensiveness leads to an increase in expenditures per unit of services. The stability of prices in such a situation predetermines a decrease in profitability.

The indicated facts do not remove the problem of a rational utilization of cost accounting in the nonproductive sphere. Considerable potentials for an increase in the efficiency and quality of work in many paid service sectors are connected with a systematic application and improvement in cost accounting. The task of strengthening the self-support of enterprises through the attainment of a greater flexibility of price formation and, primarily, the intensification of the processes connected with the rendering of services is urgent.

However, there is no doubt that the possibilities of applying cost accounting in the nonproductive sphere are limited as compared with material production. This is obvious when it is a question of the most typical nonproductive sectors, in particular public education and health. Meanwhile, the problem of utilization of economic methods of control for the mobilization of the initiative of labor collectives also confronts these sectors. Apparently, this problem cannot be solved on the basis of the fact that "cost accounting is the type of functioning of all economic links without exception, which is universal for socialism."[9]

Cost accounting presupposes the functioning of economic links as commodity producers. As K. Marx stressed, the relations of the latter always "assume the form of a social relation of the products of labor."[10] The sale of a product determines the possibilities of renewing the production cycle and this presets the limits of individual reproduction. This principle of reproduction of the resources of the economic cell, if it is implemented in conformity with the plan in the presence of public ownership of means of production, is also characteristic for cost accounting.

Meanwhile, the nonproductive sphere is characterized by the lack of a direct connection of commodity-money relationships with the specific results of activity. After all, in this case the result is present in the act of exchange only potentially. In fact, the customer only acquires the right to use in a specific way the labor of individuals providing services.

Thus, commodity-money relationships in the nonproductive sphere, essentially, are closed at the prerequisites of activity, only indirectly touching upon its useful effect. Therefore, this sphere is characterized by a special overall method of management based on the specific relations of reproduction of the resources of the economic link. Using existing terminology, it can be called the estimated procedure of financing, keeping in mind, however, that in exactly the same way it is not reduced to its financial aspect, like cost accounting to self-support. In a number of nonproductive sectors the estimated procedure predominates, while in others it coexists and is interwoven with cost accounting.

In the economic literature estimated financing is mostly considered a method of distribution of budgetary allocations. It is characteristic that institutions financed in an estimated manner are customarily called budgetary. Meanwhile, many of them are maintained with capital received not only from the budget, but also from the funds of public organizations, from enterprises and from the population. At the same time, the utilization of the capital of the budget for the reimbursement of expenditures in economic links of the nonproductive sphere is not always effected by means of estimated financing. There are numerous examples of compensation from the budget for benefits granted by cost accounting

enterprises to consumers. Nor is a kind of intrasectorial cost accounting, when cost accounting subdivisions of the nonproductive sector (supply, transport and so forth), in fact, function at the expense of budgetary allocations provided by the estimates of the institutions serviced by them, infrequent.

Not the utilization of budgetary funds, but the reproduction of resources in accordance with parameters directly characterizing not the effect of activity, but the prerequisites and conditions for its attainment, is the fundamental feature of estimated financing. A similar principle is also characteristic for the staff-salary system prevalent in the nonproductive sphere. The salary, which plays the role of the basic form of wages in the most typical nonproductive sectors, is determined primarily by the position, that is, the worker's range of duties. Proper vocational training and practical experience are the most important prerequisites for a successful fulfillment of duties. Therefore, in most cases the worker's length of service and skills affect his salary. Along with the length of service and skills working conditions are also taken into consideration.

It has been noted above that parameters pertaining to the scale and content of activity play the predominant role in the planning of the development of the nonproductive sphere not only at the level of economic cells, but at the level of sectors as well.

At times the estimated procedure of financing is hidden behind organizational forms seemingly meeting cost accounting principles. In this sense the experience in the introduction of cost accounting into such a sector of the nonproductive sphere as science is significant. It is carried out most extensively and successfully where there is the closest cooperation between scientific research organizations and industrial, agricultural, construction and transport enterprises (some researchers consider not without substantiation such organizations links of material production, regarding their workers as part of the aggregate worker of its sectors). However, in cases when scientific research activity is not directly linked with material production, cost accounting forms either are not applied at all, or are not filled with a real economic content.

In many economic links of the nonproductive sphere the elements of estimated financing coexist and are interwoven with the elements of real cost accounting. Often the former predominate, which externally is manifested as incomplete, formal and imperfect cost accounting. This applies, for example, to theatrical entertainment enterprises and to some other organizations in the sphere of social and cultural services.

The predominance of the "indirect" planning of the effect and the prevalence of estimated financing in the nonproductive sphere are largely due to common causes. Owing to the characteristics of nonproductive sectors, the results of labor here often do not lend themselves to a formalized evaluation and are not always capable of finding an adequate expression in proceeds received from the sale of services. This presupposes the utilization of a specific approach to the control and stimulation of the efficiency and quality of work.

Control bodies directly close to enterprises and institutions of the nonproductive sphere are primarily capable of effectively controlling the quality of their work. As a rule, they are subdivisions of executive committees of local soviets of people's deputies. Under the conditions of developed socialism the role of local soviets in the management of economic and social-cultural construction increases constantly, which follows from the provisions of the USSR Constitution and legislative acts developed on its basis. At the same time, independence, initiative and primary attention to the qualitative aspect of the work of subordinate institutions are not always fully manifested in the daily activity of local bodies for the control of enterprises and institutions of the nonproductive sphere. For example, according to the data of the survey conducted in the Latvian SSR, more than 50 percent of the work time of specialists of city and rayon public education bodies is spent on "office" work. In practice, inspectors of rayon public education divisions spend the same amount of time on the preparation of information for superior bodies as on visits to the institutions supervised by them.[11]

During the period when a modern highly developed system of social-cultural and municipal-domestic services was only being established, the provision of the entire population with a minimally necessary set of services of a standard quality was the main task. Under these conditions local control bodies regularly concentrated their attention on the realization of the general requirements for the scale and quality of services. Of course, this function retains its importance now and in the future. At the same time, the growth of the country's economic potential creates the prerequisites for meeting the population's higher and differentiated needs, more fully taking into consideration local characteristics and actively searching for ways of improving the quality of services. This in turn presupposes not only an improvement in the method of work, but also a certain expansion of the economic possibilities of the control bodies that are capable of most efficiently and flexibly affecting all the aspects of the activity of the primary links for the rendering of services. In particular, it is a question of the possibilities of a purposeful effect on the processes of formation and utilization of the material and technical base of institutions, as well as on the wages of their workers.

Intensification of the flexibility of the mechanism of management is fully compatible with the utilization of the estimated procedure of financing, but it requires its improvement and development. In our opinion, the singling out in the organizational structure of such sectors of basic economic links, in the role of which either large institutions (higher educational institutions, oblast and republic hospitals and so forth), or mostly rayon and city associations of public education, public health and cultural institutions, can appear, is the condition for a fundamental improvement in the mechanism of estimated financing in the sectors of the nonproductive sphere. The tendency toward a gradual formation of such links is already manifested in practice. It is expressed in the concentration of the economic activity and in the centralization of accounting, material and technical supply and the repair of buildings, installations and equipment.

Centralization is carried out most systematically in the sphere of cultural and educational work. For example, a network of rayon and city centralized library systems with a common book stock, estimate of expenditures and staff

of workers, with single management and with a centralized acquisition and processing of literature was established in 1974-1980. Since 1979 work has been done on the formation of centralized club systems, which, however, unify club institutions only within the limits of an individual kolkhoz or sovkhoz.

The tendency toward a close economic integration of territorial complexes for social and cultural services is objective and fully meets the task of increasing its efficiency and quality. In addition to other advantages centralization makes it possible to much more efficiently organize the labor of both basic and auxiliary workers of the appropriate sectors. The most favorable conditions for it exist in cities, as well as in rural regions with a high population density and a well-developed road and transport network. In our opinion, here it is advisable to establish sectorial associations for social and cultural services in the very near future, at the same time, relieving small institutions of the rights of legal entities and credit authorities. This measure will have as its end result the strengthening, not weakening, of the flexibility of the mechanism of management and will ensure a vast scope for the manifestation of local initiative.

Special forms of concentration in the service sphere must be found for regions, in which numerous institutions are dispersed over a large territory with an insufficient development of the road and transport network. Apparently, these forms should ensure a certain integration of institutions with different specializations servicing the same population group, while retaining the financial and economic independence of each of them. The first steps in this direction have been taken in the course of establishment of so-called social and cultural complexes in a number of the country's regions.

Large economic links of nonproductive sectors, on condition that they are given the appropriate rights, are capable of successfully providing individual and collective incentives for workers. Effective incentives for an increase in the efficiency and quality of work are compatible not only with cost accounting, but with the estimated procedure of financing as well.

For example, in most sectors of the nonproductive sphere it is impossible to replace the salary with piece-rate wages. However, it is possible and highly advisable to supplement the centralized regulation of salaries with a decentralized one on the basis of periodic certifications. This principle of certification (essentially, a direct expert examination of the quality of work) makes it possible to actively utilize various forms of individual, as well as collective, incentives in the nonproductive sphere.

Certification salary increments, as well as the payment of bonuses to workers of nonproductive sectors, including those working in budgetary institutions, have become widespread to a certain extent in the last few years. For example, physicians, to whom the highest skill category is awarded, are additionally paid 30 rubles per month (surgeons, 50 rubles). The first category gives them the right to additionally receive 15 rubles per month (surgeons, 30 rubles). On the basis of certification results increments of 10 and 20 rubles per month can be established for teachers (provided the titles "senior teacher" or "method teacher" are conferred on them). Experiments in the area of improvement in the wages of scientific workers have become widely known. About 70 academic and sectorial scientific research institutions now participate in them.

Undoubtedly, the utilization of certification for the regulation of wages in nonproductive sectors increases the stimulating role of the latter. However, a contradiction with the existing procedure of formation of the wage funds of budgetary institutions is detected here. Allocations for wages are planned on the basis of lists of staff members and, ultimately, are determined in a centralized manner by the established salary diagrams. At the same time, reserves for incentives for advanced workers are not provided and can be ensured mainly as a result of the saving of the wage fund brought about, for example, by incomplete staffing. In this connection the proportion of education and public health specialists, to which a skill category is awarded, remains negligible. Collective material incentives based on the results of the socialist competition play an even smaller role.

In scientific research institutions, where experiments on improvement in wages are conducted, in a number of cases the reserve of the wage fund was ensured as a result of the rejection of the procedure of increase in the salaries of scientific workers in connection with the award of an academic degree existing in other institutions. It is obvious, however, that in most sectors of the nonproductive sphere there are no similar sources of creation of a reserve of funds that could be utilized for the decentralized regulation of wages. Furthermore, similar types of reserves should be formed and supplemented regularly so that the principle of redistribution of salaries could give way to the principle of their differentiated increase.

For this it is necessary to plan the wage fund not on the basis of fixed salaries, but by means of standards determined directly in terms of a specific volume of work. In many types of institutions financed in an estimated procedure wages can be normed with respect to the accounting units that are already utilized during the planning of expenditures according to other items of estimates (in general education schools, class; in hospitals, bed and so forth). Evidently, the standards of formation of the wage fund should be differentiated with due regard for the specialization of institutions and their subdivisions, as well as working conditions.

The development of such norms is feasible on the basis of existing staff standards and diagrams of salaries. However, it is important that long-term plans contain specific indicators of increase in these norms and that funds (at first, limited, of course), which could be used for incentives for the best workers and advanced collectives, be reserved in estimates of associations. This would create the prerequisites for a more efficient utilization of financial resources allocated for an increase in the wages of workers of the nonproductive sphere.

At present these resources are assigned primarily for the implementation of one-time measures for increasing rates and salaries. When new wage terms are introduced, a significant number of workers receive a sizable wage increment regardless of how successfully they performed their functions during the preceding period. At the same time, the possibilities of establishing certification increments are extremely limited in the interval between the reviews of rates and salaries (for specific categories of workers such intervals reach 10 years and more). The transition to the planning of wages according to rising, with due regard for the possibilities of the national economy, standards will make it possible to eliminate this shortcoming.

In our opinion, an automatic increase in the rate or salary of a worker of the nonproductive sphere as a result of centralized measures is permissible only in two cases: If it is necessary for the transition to the new wage minimum, or if it is a question of a change in obviously irrational correlations in the wages of individual categories of workers. An increase in wages in connection with the certification conducted on a democratic basis within the framework of the basic link of the appropriate sector should be the general rule.

Along with increments based on the results of certification, which can be conducted no more often than once in 2 to 5 years, it is advisable to more extensively utilize the payment of bonuses to workers of the nonproductive sphere on the basis of the results of the socialist competition. Part of the funds allocated for an increase in wages should be assigned for the increase in existing and formation of new bonus funds--both at the level of basic economic links and at the level of Union, republic, kray and oblast bodies responsible for the development of nonproductive sectors. Under the conditions of the broad independence of basic economic cells the role of the socialist competition in the nonproductive sphere rises considerably.

Thus, the most important potentials for improvement in the mechanism of management in the nonproductive sphere at the present stage lie in strengthening the overall approach to planning, expanding the independence of the basic links of its sectors and creating effective incentives for an increase in the efficiency and quality of work. This in turn presupposes a certain revision of planned indicators, redistribution of rights and responsibility within the framework of organizational structures of control and improvement in the standards of financial and economic activity. We would like to stress once again that the solution of problems arising in this connection can and should be found with due regard for the specific nature of the nonproductive sphere on the basis of development of forms and methods of management adequate to its nature.

FOOTNOTES

1. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 22 noyabrya 1982 goda" /Materials of the Plenum of the CPSU Central Committee on 22 November 1982/, Moscow, 1982, p 8.

2. On the whole, the problem of the relationship between the economic mechanism and the economic control system is not examined in this article. The point of view, according to which the economic mechanism is not reduced to control in its proper sense, because it includes certain elements of the system of objective economic relations, seems to us the most convincing.

3. See, for example, Ya. A. Kronrod, "Urgent Problems in the Investigation of the Economic Basis," VOPROSY FILOSOFII, 1979, No 12, p 21.

4. See, for example, E. M. Agabab'yan, "Proizvodstvo i potrebleniye uslug v desyatoy pyatiletke" /Production and Consumption of Services During the 10th Five-Year Plan/, Moscow, 1977, p 37.

5. "Materialy XXVI s"yezda KPSS" /Materials of the 26th CPSU Congress/, Moscow, 1981, p 125.

6. See: "Kompleksnyy plan razvitiya sfery obsluzhivaniya naseleniya" /Overall Plan for the Development of the Sphere of Services for the Population/, Moscow, 1977, pp 44-45.

7. See: "Neproizvodstvennaya sfera SSSR" /Nonproductive Sphere of the USSR/, edited by M. V. Solodkov, Moscow, 1981, p 138.

8. See: "Osnovnyye pokazateli razvitiya seti uchrezhdeniy kul'tury i ikh deyatel'nosti za 1975-1980 gody" /Basic Indicators of the Development of the Network of Cultural Institutions and Their Activity During 1975-1980/, Moscow, 1981, p 46.

9. "Voprosy khozyaystvennogo rascheta i mekhanizma sotsialisticheskogo khozyaystvovaniya" /Problems of Cost Accounting and of the Mechanism of Socialist Management/, edited by V. G. Starodubrovskiy and R. A. Otsason, Moscow, 1973, p 81.

10. K. Marx and F. Engels, "Soch." /Works/, second edition, Vol 23, p 82.

11. See: "NOT v shkolakh i sisteme narodnogo obrazovaniya" /Scientific Labor Organization in Schools and in the Public Education System/, collection of articles, Riga, 1976, Issue 1, pp 13-21; Issue 2, pp 54-60.



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ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

## ECOLOGICAL ASPECTS OF ECONOMICS HIGHLIGHTED

Moscow EKONOMICHESKIYE NAUKI in Russian No 10, Oct 83 pp 22-30

[Article by Dr of Economic Sciences B. Borovskikh: "Ecological Aspects of Economics" (survey of problems based on materials received by the editors)]

[Text] The scientific and technical revolution has brought to life many new phenomena in socioeconomic life, one of the most important of which is the ecologization of socioproduction activities. Essentially the ecologization process is manifested through the steadily increasing influence of the ecological factor on production and its conditions, content and results. This is expressed through the sharply expanded and increasingly expanding scale of activities related to the protection of the environment, the strengthening of its resource and recreation potential and the creation of ecological conditions for the life of the present and future generations consistent with highly developed production forces.

The ecologization process is manifested in a variety of forms, such as the reproduction of natural resources; industrial utilization of the development principles and operational mechanisms inherent in natural processes; development and manufacturing of productive capital and nonindustrial commodities with the ecology in mind, and so on. Production ecologization involves the intensified interaction between society and nature and the increased complexity of their interrelationship. From an open and relatively simple subsystem, socioproduction activity increasingly acquires the nature of a closed and significantly more complex economic-ecological system.

The ecologization of production also affects its structure, growth rates and the entire system of socioproduction relations. We can speak of a kind of ecologization in economic management and economic thinking. This refers to the fact that an increased orientation toward ecology is manifested in the activities of management organs. Proceeding from this, special structural subdivisions are created, proper instruments (norms, methods, forms, etc.) are developed and the organization of management is perfected on the basis of the principle of a unified economic-ecological system. The ecological aspects of socialist economic management are increasingly fully and comprehensively reflected in economic and social development plans, price setting and economic computations. The ecological approach to the management of socioeconomic processes is fruitful: it allows us to provide a stronger and more thorough substantiation of decisions. This is understandable, for in this case it is a

question of including in the plans for socioeconomic activities the "nature" subsystem which was previously either totally ignored or was reflected in a partial and limited way.

All of this presumes the economic interpretation of occurring processes and the resolution of a number of theoretical and applied problems important to our economic and general social development. They include the development of a conceptual apparatus and scientific classifications reflecting economic-ecological activities; the economic assessment of natural resources; the expediency of paying for the latter; evaluating ecological damages in the utilization of nature and their reflexion on production costs, prices and economic management results; developing cost-effectiveness relations in the utilization of nature; developing new sectors of activities on an ecological basis (recreation, the restoration of nature, hygiene-ecological, etc.) and so on. Particularly noteworthy is the problem of developing a new production management structure consistent with the requirements of the contemporary ways of using nature in the developed socialist society, combining within a single entity all parts of its technologically related stages (extraction of natural resources and their components, their processing into finished products and the reproduction of natural goods). The creation of such a structure will make the production cycle ecologically closed. Also topical are studies of the characteristic effects of economic laws on the use of nature and the definition of its development laws and trends in a mature socialist economy.

The resolutions of the 26th party congress and the May and November 1982 and June 1983 CPSU Central Committee plenums emphasized the exceptional importance of the rational utilization of resources and the thrifty attitude toward the people's good.

However, we deem it justified to point out that ecological problems are still not being adequately reflected in economic research. It is particularly important that such problems have not found a clearly defined place in political economy. As in the past, neither theoretical works on this basic economic science nor its teaching pay suitable attention to the ecological aspects of economic development. We believe that correcting this situation is one of the necessary prerequisites for implementing the party's instructions on making a decisive turn in the social and, above all, the economic sciences toward the real practical assignments which life issues to our society, and the fact that "to the same extent as the natural, the social sciences must become an efficient aid of the party and the entire nation in resolving such problems."[1] In his letter to the editors, Docent G. Vil'sker, candidate of economic sciences, (Saransk) notes that political economy, which is one of the leading social sciences, has essentially removed itself from the solution of topical ecological problems. Ecological-economic relations are objectively appearing at the present stage of social development. These are production relations pertaining to the noosphere, with their own specifics which political economy cannot ignore.

The idea of the underdeveloped nature of ecological problems by the economic sciences, political economy in particular, is expressed by other writers as well. Candidate of Economic Sciences V. Minich (Minsk) writes that until recently problems of meeting the ecological requirements of the people were

ignored by the economists, although in the study of worker life the Marxist-Leninist classics have always drawn the attention on the workers habitat. The author concludes that the study of the political-economic aspect of the problem is only beginning. Yu. Al'sov (Leningrad) notes that as a rule the study of ecological-economic problems is unsystematic and that so far the economic laws of the interaction between society and nature have remained outside the sphere of scientific analysis. In discussing the recreation needs of society (the need to rest, to recover one's strength, and so on), Candidate of Economic Sciences F. Martynov (Novokuznetsk) emphasizes that under socialism the recreating utilization of nature is a structural component of the party's economic policy and that the socialist way of life and the socioeconomic base of recreation steps raise a number of problems to be resolved.

In our view, the authors who consider that the economic sciences have removed themselves from the solution of ecological problems are overdoing it. The dozens of dissertations, including some doctoral, the many monographs, articles, scientific reports, practical science conferences, symposiums on the all-union, republic, sectorial and regional levels, reports on the work of scientific institutions and VUZs on ecological problems and others eloquently prove that a rather wide research front has been established in this area. Nevertheless we cannot deny the fact that in this area theory is lagging behind practical requirements.

In our view, the reasons for this lie in the dialectics of the process of knowledge itself. Science and theory are the reflection of practice. They develop and expand on the basis of practical activities, the study and enrichment of practical experience and the influence of practical requirements. However, nature utilization has not as yet developed as a separate area of activities in the social division of labor or gained an organizational-legal status consistent with the current scale and content of activities taking place in that direction. Steps related to environmental protection and the rational utilization and reproduction of natural resources were undertaken long ago. Starting with 1975 they have been planned on a centralized basis and on a social scale. Organizationally, however, these steps are still uncoordinated. Cost-effective relations in them are still embryonic or totally absent. All of these reasons are not contributive to the timely identification and resolution of theoretical problems.

In many cases the lagging is the result of the novelty of the problems themselves. The range of social requirements broadens under developed socialism. They now include ecological requirements related to recreation, tourism, communion with nature, etc. Many formerly purely physiological requirements have assumed a social aspect and become targets of economic research.

Inertial thinking, the psychological barrier of existing concepts of the inexhaustibility of resources and the infinite capacity for self-restoration of the potential of nature, the phenomena and processes of which remain outside the range of economic relations, have played a negative role in terms of the insufficient attention paid to problems of the use of nature. This reason should be emphasized, for its rapid elimination is particularly important.

In their study of socioproduction relations among people, interacting with production forces and nature, the economic sciences concentrated mainly on the availability of natural resources, for it is this which determines the pace of economic development, the level of economic management, etc. In recent years, however, priority has been assigned to the quality of the environment and the condition of the biosphere as an object of the direct satisfaction of social requirements. As it essentially derives from the scale and nature of utilization of natural resources, environmental production has become the most important organic aspect of the rational use of nature.

The solution of ecological problems, the importance of which grows as we progress from socialism to communism, G. Vil'sker notes, is possible only through the creation of an integrated "society-environment" system. He raises the question of formulating an overall political economic concept of interaction between society and nature. It is only on its basis, he believes, that the elaboration of a scientific economic strategy for social development would be possible. He further stresses that the planned management of an ecological-economic system is possible only with public ownership of productive capital and on a strictly scientific basis. Its task would be to optimize the activities of the system, in which political economy should play a basic role.

Other important problems include the correlation between socialist political economy and the economics of socialist utilization of nature and their common and different features. The common aspect shared by these sciences is their topics, which include human production relations and the laws which embody them. The problem of the differences separating these sciences is more difficult. Sometimes it is given a wrong solution based on the fact that under the conditions of production ecologization political economy encompasses the categories and methods of other sciences, thus losing the nature of a purely economic science and exceeding its own framework, whereas the economics of the utilization of nature is "assigned" exclusively economic problems. In reality, although it "borrows" concepts or methods from other sciences, political economy does not lose in the least its nature as a "purely economic" science, while the economics of utilization of nature also "encompasses" within itself elements of related sciences, such as ecology, for example. The difference between political economy and the economy of the utilization of nature is the noncoincidental nature of science in general, basic and applied. Political economy studies the most common development laws applicable to all social production and its sectors, while the economy of the use of nature studies the specific manifestation of these laws in terms of the utilization of nature and the specific development patterns in this area of activities.

O. Pogorelova (Kiev) shares her thoughts on relations in the use of nature within the structure of the economic base. Production relations in the use of nature, the author writes, develop among people on the subject of the utilization and reproduction of the elements of the environment in the course of the production of material goods. They are socially determined and reflect the dominant social method of appropriating productive capital. In this case relations of utilization of the environment, in the author's opinion, include not only production but technological relations (forms of interaction among elements of production forces) as well as those which arise as a result of nonproduction consumption and use of natural goods. O. Pogorelova sums up

as follows: in addition to production relations, economic relations include relations between people and nature and material relations which arise in the nonproduction area. In real life relations of the utilization of nature appear as relations with the production method as a whole.

We consider fruitful the idea of the need to study socioproduction relation in the use of nature in close connection with production forces and their use and development. The economic sciences would doom themselves to stagnation if, while studying production relations in the utilization of nature, they ignore the influence of this factor. It seem to us, however, that it would be difficult to agree with such a broad concept of economic relations. We need at least a stronger substantiation than the one given by the author.

O. Pogorelova's views are similar to those of Yu. Al'sov (Leningrad). On the basis of the concept of political economy as the science of socioproduction relations among people in the course of the production, distribution, exchange and consumption of material goods, he points out that said relations are achieved only through interaction with nature. The latter is a link which connects the subjects of these relations and ignoring it is unjustified. Noting the great attention which K. Marx paid to the study of the interaction between society and nature in the course of human production activities, the author mentions the lack of work on the political-economic aspect of this interaction and the certain alienation existing between the social and natural sciences in the study of ecological problems.

Yu. Al'sov especially discusses the question of developing the conceptual apparatus related to the ecologizing of economic sciences. After describing the basic requirements regarding scientific terms such as proper orientation, brevity, grammatical accuracy and euphony, uniqueness and consistency with accepted terminology, Yu. Al'sov draws attention to concepts such as "nature," "national wealth," "natural conditions," "natural resources," "natural production forces," and others. The author defines nature as the primary factor of the production process which, together with labor, creates a certain product. Yu. Al'sov believes justified to consider it in both the broad and narrow meaning of the term: in its broad meaning it includes society; in the narrow meaning of the term it is pitted against it. Society, the author writes, is not only people but a material foundation -- natural materials, objects and forces applied in the production process, i.e., elements of the restructured man-made nature. These elements are not "pure" and virginal nature to which the term "environmental environment" applies.

National wealth is an important axiological category. Yu. Al'sov considers it in his work in terms of the role played by natural and social production forces in creating the national wealth. The natural wealth is actually "pure" nature -- the prime source, the material foundation of all goods created by man. In the words of K. Marx the national wealth of society consists of the substance and forces of nature specialized with the help of labor, and the result of production and economic processes. This includes the entire stock of national goods needed for production and consumption, created as a result of the past combination of manpower with the elements of nature.

Indeed, "everything which is not the result of human activities and labor," Marx says, "is nature, and as such is not social wealth."[2] In this case, however, we must bear in mind that the true criterion of social wealth is its relevance to the needs and interests of society. Under socialism, the economic foundation of which is ownership of productive capital by the whole people, production, as we know, is used to meet the needs of the members of society. That is clearly why the material goods used in attaining this objective must be regarded as wealth. Consequently the connection to social requirements, i.e., having a social consumer value, is a mandatory attribute of social wealth.

Although required, this attribute is not sufficient, for otherwise the structure of the social wealth should include natural elements which are not objects of production relations (such as the air, solar radiation, wind and tide energy, etc.). In our view, objects of production relation can be only some limited (in absolute or relative terms) and, therefore, reproducible natural resources. Their reproduction broadens the range of economic laws, by including, along with goods which have already been subjected to the labor process, similar still virginal ones, which thus become objects of production relations. Actually, from the viewpoint of social requirements, the reproduced and free goods of the same variety act as a single consumer value, the identical parts of which have the same value. All other conditions being equal, a virginal forest, for example, is as valuable as a man-made one.

The social wealth includes not only reproduced natural resources of individual and social commodity value but also the same variety of virginal "free" resources which acquire a social value under reproduction conditions. In this case reproduction plays an constituent role in determining the national wealth. The reproduction concept enables us to abandon the idea that the wealth of society increases more with the increase in reproduced natural resources as against the increase in similar free ones. The reproduction approach takes into consideration the value and physical aspects of the wealth and differences in its dynamics in terms of value and kind. The increased scale of reproduction of natural resources increases the volume of labor outlays and raises the cost of these resources. The physical volume of the latter, which accounts for this value, could even diminish in the course of this process, instead of increasing. This takes place, for instance, when the consumption of virginal resources -- analogs of reproducible ones -- exceeds the volume of their reproduction. If, for example, the scale of felling virginal trees or catching fish in natural reservoirs exceeds corresponding forestation and fish breeding in ponds, in terms of value the growth of wealth in paralleled by its decrease in nature. Reproduction outlays embody the value of the entire amount of natural resources of a given variety, both reproduced and similar virginal ones.

The categories of "natural conditions" and "natural resources" play an important role in the conceptual apparatus of utilization of nature. As we know, K. Marx classified natural conditions into two large groups on the basis of economic characteristics: natural means of life ( fertile soil, abundance of fish in the waters, etc.) and natural means of labor (working waterfalls, navigable rivers, timber, metals, coal, etc.).[3] In Yu. Al'sov's view, natural conditions could be viewed from another side as well: as characterizing the

condition of the elements of the environment. The author classifies as natural resources natural objects and forces which could be put to use at a given stage of societal development. This definition of natural resources, however, must be refined in the light of their reproduction.

Natural resources (reserves) are an economic category. Marx pointed out that "The consumer value falls within the sphere of political economy when it is changed through modern production relations or, conversely, when it affects or changes them."[4] As a factor in the direct determination of the value (reproduced goods) or a link which, through the productive strength of labor, determines the correlation between necessary and added working time and the corresponding product, natural resources influence both production and distribution relations.

The systematic implementation of the principle of historicism in shaping the conceptual economic machinery calls for taking the characteristics of each of its aspects into consideration. In the present circumstances the elements of nature are being increasingly used through the intermediary effect of labor, thus acquiring a social coloring. The tremendous scale of reproduction of natural resources (forests, soil fertility, fishing stock, etc.) proves the inclusion of the elements of nature in socioecological use and the growing ecologically closed cycle of labor processes. Increasingly the one-sided influence on the natural world and the extraction of labor objects from nature are being replaced by a double process -- restoration, i.e., the reproduction of natural goods. That is why at the present stage it is accurate to define natural resources as elements of nature involved in economic or, more precisely, economic-ecological circulation.[5] It is important for this definition of natural resources to include not only the premise of the labor process but its product, its result, as well. This fully agrees with the vital requirements of the current utilization of nature and with economic management in general. Here we find no consumerist approach to the natural world around us. The attention is focused on both aspects of the use of nature: consumption and reproduction of natural resources.

The materials received by the editors deal extensively with the quality of the environment and the satisfaction of the ecological needs of the people.

V. Minich points out that ecological needs or the needs of the individual for natural living conditions -- clean air and water, sunlight, and contact with the plant and animal world -- have their social side, the extent of manifestation of which depends on the level of development of production forces and nature of production relations. In emphasizing the sociohistorical nature of ecological needs, V. Minich notes the direct link under capitalism between the degree of their satisfaction and the class struggle and level of social self-awareness of the working people. The author draws attention not only to the class nature of ecological problems but also to the fact that they are largely international. Today no substantial improvement in the ecological situation in any country would be conceivable outside the global condition of the biosphere at large. Hence the need for joint international efforts, regardless of social system, aimed at taking environmental protection steps, preserving and strengthening peace on earth and lifting the threat of thermonuclear catastrophy could be considered the main ecological program of all countries.

The extent to which ecological requirements are met depends on the quality of the environment and biospheric condition. Theu are among the basic indicators of the people's well-being. The author justifiably calls for including these indicators in the overall system of indicators of the people's well-being. According to V. Minich, real prerequisites exist for developing an integral indicator of environmental quality.

V. Minich further emphasizes that in a socialist society objectively there is no distinction between ecological and economic processes. Their unity lies in the common social goal of improving the people's living standards. However, a certain contradiction may be noted here in the evaluation of their individual aspects. Improvements in the ecological situation require significant and ever increasing outlays which, unquestionably, affects economic growth. The conflicting nature of economic and ecological interests is by far not a purely "academic" problem but one of the reasons for an ecological situation as has been found to exist to a certain extent in recent years. This has been affected by both objective (need to accelerate economic development, high cost of building treatment facilities, imperfect technology, etc., and subjective (inertial and conservative thinking in making economic decisions and using the economic mechanism, etc.) factors. In V. Minich's view, increased biospheric pollution is natural to some extent. However, he emphasizes, under mature socialist conditions the use of existing economic and scientific and technical facilities for taking efficient measures to prevent pollution is equally natural. The communist party and Soviet government are doing everything possible to ensure their use, considering the creation of normal ecological conditions for human activities an important component of the further enhancement of the people's well-being.

The category of recreational needs, which are an organic component of ecological requirements, requires a political and economic interpretation as well. The meeting of such requirements, F. Martynov writes, is one of the social tasks related to the recreational use of nature. This presumes rest, restoration of forces and health, and deriving esthetic pleasure by going out of town and away from industrial and other production sites, among nature which has retained its attractiveness and original qualities or has been brought as close to its original condition as possible.

The recreational use of nature, as nature utilization as a whole is of a social and, under capitalism, a class-antagonistic nature. Under the private ownership of the land, forests and other natural resources, the overwhelming majority of the population, the poorest strata above all, is denied the possibility of using needed recreation facilities. They are either closed to visitors or else accessible only at excessively high cost. The nature of the recreational use of nature under socialism is essentially different. Public ownership of productive capital and natural resources make of all members of society equal users of natural resources. Alongside the traditional facilities, such as sanatoriums, rest homes and pioneer camps, the recreational rest and treatment system is increasingly expanding through the creation of facilities for one- or two-day rest, sports centers, hiking in picturesque sites, and so on. Over the past 15 years alone the number of treated and resting people has nearly quadrupled, totalling some 42 million in 1981. As F. Martynov justifiably notes, under socialism the recreational use of nature is

of a direct social nature and a structural component of the implementation of CPSU socioeconomic policy and one of the important prerequisites in developing the socialist way of life.

The socioeconomic base of the recreational use of nature and its universal accessibility and popularity, inherent in socialism, face economics with a number of important problems. They include determining the overall volume of recreational requirements, their standard and structure and their role and place in the overall system of steps aimed at enhancing the people's living standards. Optimizing the utilization recreation resources by type and territorial location, taking into consideration their variety, spatial deployment and limits of recreational potentials in various areas are major problems. In the final account, F. Martynov writes, their essence may be reduced to perfecting the management of the recreational use of nature so as to ensure its most expedient fullness and high efficiency. The author notes the particular importance of such problems in Siberia, where a headlong process of establishing and developing large multispecialized territorial-production complexes is taking place, involving fast population growth, and where ecological systems are characterized by their delicacy and long recovery.

F. Martynov shares his thoughts on ways to improving the management of the recreational use of nature which, in his view, operates as an independent infrastructural sector. He deems necessary the centralizing of such management and the elimination of the existing lack of coordination among trade union organizations, ministries, departments and local soviets. Such centralization would make the fuller utilization of available natural conditions in the various areas possible. It would preclude the overloading of their facilities and would ensure the total preservation, restoration and enhancement of the recreational potential. This has become particularly important now, for because of lack of coordination in management no one is essentially and clearly in charge of the condition of many natural areas. The comprehensive approach provides for proper supervision over the formulation and observance of norms of recreation loads carried by natural systems (forests, water reservoirs, etc.). F. Martynov cites the recreation service in Novokuznetsk as an example of a unified and comprehensive approach to such management. In accordance with the unified environmental protection plan for the suburban area, pollution sources, the level of their influence on the ecosystem, and the damages they cause have been identified and the amount of nature-restoration work mandatorily assigned to polluting enterprises defined. Economic measures must be taken to increase interest in the better utilization and restoration of recreational resources. In F. Martynov's view, assignments on the protection of recreational areas must be mandatorily increased when the results of economic activities by nature-using enterprises are assessed.

Candidate of Juridical Sciences L. Sheynin as well discusses the problem of the utilization of nature. In saying that the exploitation of resources and supervision of their condition should not be in the hands of a single department, the author emphasizes the need clearly to separate executive from operational functions. He believes that cost-effective relations must be developed more extensively in the area of nature utilization, with proper budged financing limitations. In his opinion this would contribute not only to improving the use of natural resources but their optimal reproduction and

protection of the environment as well. Like F. Martynov, L. Sheynin points out the adverse ecological and economic consequences of uncoordinated resource management and the need for a comprehensive approach. This applies to timber, land and other resources managed by several ministries and departments. Thus, permission to look for and pump ground water is issued by the geological service, while the permission to use it comes from the basin administrations of the USSR Ministry of Land Reclamation and Water Resources. The latter are also in charge of issuing permits for the use of surface waters. However, both ground and surface waters, according to the Foundations of Water Legislation, are structural parts of the country's single water resource. They are interrelated and interdependent. It would be logical for the management of this entire resource to be unified and centralized.

The management of industrial water complexes as well should be unified. Currently many rivers in the European and Asian parts of the RSFSR, the Ukraine, and the Baltic, Central Asian and Transcaucasian republics are cascades of hydrolic power systems with huge water reservoirs covering dozens and even hundreds of thousands of hectares. The individual water users (industry, riverine navigation, fishing, the housing-communal industry, agriculture, and so on) operate without being essentially responsible for the condition of these water reservoirs. Therefore, in L. Sheynin's view, the unified industrial water complex should be under a single administration. Whether this would be a "club" of water users or consumers or any other specialized authority working to ensure the comprehensive utilization and preservation of the economic potential of the water reservoir would be secondary.

Elements of departmentalism remain in forest utilization as well. A forest is a complex economic-ecological system. It supplies the national economy with timber, a variety of fruits and berries, mushrooms, medicinal herbs, furs and game. It plays a tremendous ecological role in shaping the chemical composition of the air, the climate, the hydrogeological system and the soil cover. Forests are also irreplaceable as a recreational resource. However, L. Sheynin points out, there is no single authority in charge of forest management. The forestry industry organs, which are essentially concerned with the preservation and reproduction of timber, do not control the herds and wild game and bird hunting and the use of recreational facilities, frequently in excess of admissible limits. The activities of timber procurement enterprises are not always coordinated with the tasks of forest protection and restoration of forested areas. All of this urgently requires proper organization.

The ecologization of socioproduction activities triggers an extensive and comprehensive set of problems. We see this again as we study letters to the editors. The solution of the ecologization problem would help to develop the economic foundations of its management. It would improve the efficiency of nature utilization and the ecological situation, for which reason it is an important and urgent task facing the economic sciences.

FOOTNOTES

1. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 Yunya 1983 Goda" [Materials of the 14-15 June 1983 CPSU Central Committee Plenum]. Moscow, 1983, p 6.

2. Marx, K. and Engels, F. "Soch" [Works], second edition, vol 26, part III, p 446.

3. Ibid., vol 23, p 521.

4. Ibid., vol 46, part II, p 393.

5. F. G. Zemlyanskiy and V. V. Kirsanova, who share this point of view, emphasize that this definition is the broadest possible concept of natural resources (see Zemlyanskiy, F. G. and Kirsanova, V. V. "Methodological Approaches to the Definition of the Economic Assessment of Marine Biological Resources," in the book "Problemy i Opyt Effektivnogo Ispol'zovaniya Resursov Mirovogo Okeana" [Problems and Experience in the Efficient Utilization of the World's Oceans]. Kiev, 1978, p 15).



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PLANNING AND PLAN IMPLEMENTATION

## ABALKIN URGES REDEFINITION OF PLANNING CONCEPT

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 9, Sep 83 pp 52-59

[Article by Doctor of Economic Sciences Professor L. Abalkin: "The Concept Is the Basis of the Content of the Five-Year Plan"]

[Text] Our country in its social development has now approached that historical boundary, it was stated at the June (1983) CPSU Central Committee Plenum, when profound qualitative changes in the productive forces and the improvement of production relations, which corresponds to this, not only have become ripe, but have also become inevitable. But the improvement of production relations, in turn, along with other conditions requires the radical improvement of planning and management.

The accomplishment of the task posed by the party presumes the close, comprehensive and critical study of the entire set of questions of the organization and methodology of planning. Among them there is also the question of the elaboration of the concept of the plan, first of all the five-year plan, and of the place of this concept in the organization of planning work. Before examining this question in essence, it is necessary to stress that the elaboration of a scientifically sound concept of the socioeconomic development of the country is the starting point of the management of society, the basis of the strategic policy of the party. "The elaboration of the concept of mature socialism," Yu. V. Andropov wrote, "was placed by the 26th CPSU Congress in first place among what has been done in recent years in the area of Marxist-Leninist theory. Relying on it, the party specified its strategy and tactics for the next few years and the more distant future and cautioned against possible exaggeration in the understanding of the degree of approximation by the country of the highest phase of communism. All this made it possible to specify and clarify the means and periods of the accomplishment of our program goals."[1]

The conclusion drawn by the party that, having entered the stage of mature socialism, our country is at the very beginning of this long historical stage, which will, of course, have its own periods, its own stages of growth, is of fundamentally great importance. This conclusion is the cornerstone of the concept of the socioeconomic development of the country for the immediate future and accordingly of the long-term and five-year plans. The experience and traditions of the elaboration of

1. Yu. V. Andropov, "Ucheniye Karla Marksa i nekotoryye voprosy sotsialisticheskogo stroitel'stva v SSSR" [The Teachings of Karl Marx and Some Questions of the Building of Socialism in the USSR], Moscow, Politizdat, 1983, p 25.

the concept of the long-range plan, like all the organization and methodology of planning, go back to the plan of the State Commission for the Electrification of Russia. The general idea, the goals and main tasks of the first unified economic plan in world practice were clearly specified in Lenin's speeches and letters, in a number of party decisions, particularly in the resolutions of the 9th party congress. This in many ways predetermined the success of the drafting and implementation of the plan of the State Commission for the Electrification of Russia. The experience of the State Commission for the Electrification of Russia is also instructive in the respect that its general idea and the plan itself were formulated as a unit of the economic policy of the party, having become, in the words of V. I. Lenin, its second program.

Under present conditions the plan is also the main tool of economic policy. As to the concept of the plan, it is the connecting link between economic policy and planning. It includes and specifies as applied to the forthcoming period the most important aims of the economic policy of the party and at the same time forms the starting point, the initial link of planning work. The importance of the elaboration of the concept of the plan increases along with the broadening of the horizons of the plan: the broader the time horizon of the plan is, the more urgent the task of determining the aims of the plan and evaluating the structure of social production is.

The elaboration of the concept of the five-year plan, which is the main form of the planning of the economic and social development of the country and the basis of the organization of economic activity at all levels of production and management, is of particular importance. As to the annual and current plans, when drafting them, as a rule, it is not necessary to elaborate a special concept--it is given by the very content of the five-year plan.

The need to increase the scientific level and efficiency of planning requires the creative and realistic discussion of the theoretical and procedural questions of the concept of the five-year plan. First of all the very idea of the concept of the plan should be specified and its place in the organization of planning work should be determined.

The concept of the five-year plan is a general idea, which characterizes the main, most general directions of the economic and social development of the country for the coming period. In our opinion, it should include the determination of the main task of the five-year plan, the evaluation of the resources of expanded reproduction and the means of increasing the efficiency of their use, the establishment of the system of priorities, as well as the most important general economic and intersectorial proportions. The inclusion in the concept also of the fundamental assignments in the area of the improvement of the organizational and economic mechanism, which ensures the successful fulfillment of the plan, seems expedient.

The elaboration and approval of the concept are the initial, a mandatory and a very crucial stage of planning work. The concept of the five-year plan, which has been approved by directive organs, acts as the political aim, on the basis of which planning and economic organs begin the drawing up of the plan. This means that the elaboration of the concept precedes the determination of the control figures and the drawing up of the five-year plan. The indicators and assignments included in it are of a preliminary nature, they are not yet specific assignments.

The elaboration of the concept of the plan is a necessary and mandatory stage of planning work. When it is absent the plan loses its core, the goal orientation of its assignments is weakened, while they themselves in many ways begin to be formulated on the basis of sectorial designs which, although adjusted, remain the starting point of subsequent planning work. Only the elaboration of a clear, thoroughly substantiated concept aims the plan at the accomplishment of the tasks of the socioeconomic policy of the party, lends it a well-balanced nature and makes it possible to find the most effective economic decisions. At the same time the elaboration of the concept of the five-year plan is a very important stage, since its quality in many ways predetermines the success of all the subsequent work on the compiling and, in part, the implementation of the plan.

Marxist-Leninist economic theory and the doctrine of the objective economic laws of socialism are the theoretical basis of the concept of the plan. However, the transition from the general conclusions of economic theory to the meaningful definition of the idea of the five-year plan is a complicated matter. A qualitatively different level of analysis, which is as close as possible to the specific conditions of expanded reproduction and to social requirements, is required here. Unfortunately, economic science, first of all the political economy of socialism, far from always brings its theoretical research to "a working state," which makes it possible to include it within the concept of the socioeconomic development of the country for the future. But this does not give grounds for theoretical nihilism and cannot serve as justification of the attempts to find some economic decisions or others, while ignoring the objective economic laws of socialism.

The difficulty of elaborating the concept of the five-year plan also stems from the fact that the situation in the national economy, which actually forms by the start of the planning period, restricts the freedom of maneuvering. This applies first of all to the achieved level of production, the available production equipment and the construction which was started at the preceding stage, but has not been completed. Previously made decisions, which concern the prospects of the development of individual sectors, intersectorial and territorial production complexes, also restrict the freedom of maneuvering. As a result conflict arises between the socioeconomic goals and the existing restrictors. This cannot but complicate the elaboration of the concept of the five-year plan. However, one must not view the indicated restrictions from a fatalistic standpoint as factors which do not depend on us. The concept is also a means of resolving the indicated conflict. The starting point of its elaboration is the determination of the goals of socioeconomic development and the establishment of the system of priorities. They can vary substantially for every stage of social development, and in many respect also for every 5-year cycle. Of course, within the framework of the long-term strategic goals.

The thesis about the goals as the starting point of the elaboration of the concept is of fundamental importance. The point is that social needs and the corresponding goals, and not the achieved level, are the starting point in planning, especially long-range planning. It is necessary to evaluate the latter realistically, taking into account the natural restrictors, in order not to go beyond the possible. And still not resources, but goals are the initial thing. Moreover, it should be borne in mind that the plan is not a passive recorder, but an active factor which has a mighty influence on the amount and composition of resources, especially as in 5 years with a high level of organization and a consistency of aim it is possible to do very much.

Previously made decisions, like the plan, are not a dogma, but a guide to action. They should also be in line with, be coordinated with the aims of the socioeconomic policy of the party, on the basis of which the concept of the five-year plan is elaborated. Moreover, the concept itself, as has already been said, is a unit of economic policy and has the nature of a political directive. The five-year plan, being the basic form of planning, is called upon to coordinate and in a certain sense to subordinate to itself all other forms of plans, including goal programs. The fact that precisely the five-year plan realizes the preminence of the national economic approach, the national economic whole over any types of sectorial, regional and any other approach, is also of considerable importance. In conformity with the customary system of planning the elaboration of the concept of the five-year plan should be carried out at the same time as the determination of the basic directions of economic and social development for a 10-year period.

The elaboration of the concept of the plan is a creative process, during which different versions of the solution of economic and social problems are worked out and compared. This is natural and normal, since objective factors, including economic laws, determine the general line of development, but do not envisage unambiguous solutions. Therefore it is expedient to elaborate the concept of development for the coming planning period in several versions, with a description of the pluses and minuses of each of them. These versions can relate to the directions of scientific and technical progress, the change of the structure of social production and accordingly the distribution of capital investments, the channels of the use of the increase of the consumption fund and the sequence of the solution of some social problems or others. The choice of one of the versions, on the basis of which the basic directions of economic and social development and then the five-year plan will be drawn up, is made in the process of endorsing or approving the concept.

The choice and making of a final decision are the prerogative of the political leadership and an important link of the party management of the economy. They are carried out with allowance made for the elaborate range of interests of society, its social strata and groups, the immediate and long-range tasks, domestic and international conditions. And it is clear that only the party, as the nucleus of the political system of Soviet society, is capable of taking into account the entire set of these factors and of making a sound decision.

When elaborating the concept of the 12th Five-Year Plan it is necessary to base onself, of course, on the aims of the economic and social policy, which was worked out by the 26th party congress and was defined concretely by the subsequent CPSU Central Committee Plenums. It is a question first of all of the need to complete in the 1980's the changeover of the Soviet economy to the path of intensive development. The measures, which are being planned in the area of scientific and technical progress, the change in the structure of social production and the increase of the efficiency of the use of natural and material resources, fixed capital and capital investments, should also be aimed at the accomplishment of this task.

The problem of labor productivity is assuming paramount importance. As the June (1983) CPSU Central Committee Plenum indicated, in the economic sphere the key task is the basic increase of labor productivity. We should strive to achieve in this the highest world level. V. I. Lenin regarded this as the most important, main thing for the triumph of the new social system.[2] Now, under the conditions of the

2. See V. I. Lenin, "Poln. sobr. soch." [Complete Works], Vol 39, p 21.

scientific and technical revolution, this task has assumed particular importance both for our domestic construction and on the international level.

What does the basic increase of labor productivity mean? In the end what is meant is the achievement in the foreseeable future of such a level of it, which corresponds to the highest indicators which have been achieved by the developed capitalist countries. If we speak about the immediate period, that is, the second half of the 1980's, it is necessary to overcome the tendency for the growth rate of labor productivity to slow, which has had an effect in our economy since the early 1970's, and to ensure its high growth rate.

The very concept of a high rate needs refinement and the corresponding calculations and substantiations. But on first approximation it is possible to speak of the need to achieve an average annual rate of increase of the productivity of national labor on the level of 5-6 percent. This is an exceptionally difficult, but practicable task, if you take into account the huge reserves which exist in the national economy. Only in case of the achievement of such a level is it possible to speak not simply of the increase, but of the basic increase of labor productivity. Apparently, the 12th Five-Year Plan should also become a five-year plan of the comprehensive rationalization of production and the substantial increase of labor productivity.

When evaluating the prospects and possibilities of economic growth it is extremely important to direct one's attention to the use of the latest achievements of modern science and technology. "The economist," V. I. Lenin wrote, "should always look ahead, in the direction of the progress of technology, otherwise he will immediately turn out to be behind the times, for whoever does not want to look ahead, is turning his back to history: there is no and can be no middle course here."[3] It is especially important to recall these remarkable words of Lenin when we are actually looking ahead--we are specifying the general outlines of the forthcoming development of the economy. Today they are sounding with particular force. And not only because our economic development is taking place under the decisive influence of the scientific and technical revolution. The complexity of the present situation in the national economy is connected with the exhaustion of a number of traditional factors of economic growth, the aggravation of the problem of raw materials and energy and the considerable increase of their cost. This situation is perceived at times as something hopeless. But V. I. Lenin had similar circumstances in mind! He expressed his own view in connection with the criticism of the so-called theory of diminishing return, which attempted to substantiate the decrease of the effectiveness of additional investments of capital and the inevitable increase of the cost of products.

Can this--the decrease of effectiveness and the increase of the cost of products--occur? Yes, V. I. Lenin responds, but on the condition of invariable technology. If we look ahead, in the direction of the progress of technology (and the economist is obligated to look in precisely this way), it becomes obvious that it is capable of overcoming these natural limitations and of ensuring the steady increase of production efficiency.[4] The policy of the party of the gradual intensification of the

3. V. I. Lenin, "Poln. sobr. soch.," Vol 5, pp 137-138.

4. See V. I. Lenin, "Poln. sobr. soch.," Vol 5, pp 137-138.

economy and the basic increase of labor productivity is also based precisely on these ideas of Lenin. "The main means of the qualitative improvement in the productive forces," the June (1983) CPSU Central Committee Plenum stressed, "is, of course, the changeover to intensive development, the combining in fact of the advantages of our socialist system with the achievements of the scientific and technical revolution. Moreover, of its latest stage, which promises a technological revolution in many spheres of production."[5]

The concept of the 12th Five-Year Plan should be based entirely on these fundamental aims and should envisage measures which are aimed at the mastering of the achievements of the latest stage of the scientific and technical revolution. It is important to overcome the inertia of traditional notions and to approach in a new way the solution of many problems. It should be borne in mind that today not simply measures on the acceleration of scientific and technical progress, not simply partial improvements of the existing equipment and technology, but the making of qualitatively new gains are needed. It is also necessary to reflect this fully in the concept of the five-year plan at all the subsequent stages of planning work.

It is no less important to see and to evaluate properly the complex system of the interaction between economic and social processes, without which under present conditions it is impossible to determine the prospects of the development of society. Today the changes occurring in the economy not only are having a decisive effect on social processes, but, in turn, are experiencing their stronger and stronger reaction. That is why the concept of the five-year plan is becoming the concept of the socioeconomic development of the country for the future.

When elaborating the social aspects of the concept of the five-year plan it is also necessary to proceed from the fundamental aims which have been elaborated by the party on these questions. What is meant is first of all the indication of the need to interpret broadly and comprehensively the formula "the increase of the standard of living," which includes both the culture of reasonable consumption and everything that in the aggregate is worthy of being called socialist civilization, as well as the consistent observance of the principle of distribution according to labor. For the accomplishment of these tasks it is necessary already at the stage of the elaboration of the concept to specify the main outlines of the social program of the five-year plan.

Of the most urgent problems in this area it is possible to indicate the need to achieve a complete balance of the income of the population with the supply of goods and services for a fee. Moreover, what is meant is a balance with respect to both the total amount and the structure, with allowance made for social, demographic, territorial and other factors. One must not imagine the achievement of such a balance as an exclusively economic measure. It has a profound social meaning, since it enables everyone to use the money earned by honest labor and thereby stimulates labor activeness, increases the effectiveness of material stimulation (as well as responsibility) and cuts the ground from under the feet of speculators and profiteers. It is also no less important that the achievement of a balance of demand

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5. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 iyunya 1983 goda" [Materials of the CPSU Central Committee Plenum of 14-15 June 1983], Moscow, Politizdat, 1983, p 10.

and supply is perceived by people as concern of the state about the well-being of people and creates a healthy sociopsychological climate in society.

A set of interconnected measures, among which the expansion of production and the improvement of the quality of consumer goods, as well as services are the most important, is necessary for the accomplishment of this important sociopolitical task. The accomplishment during the 12th Five-Year Plan of the assignments of the USSR Food Program for the Period to 1990 and the achievement by the end of the five-year plan of the envisaged per capita consumption of basic foodstuffs are of particular importance. The regulation of the monetary income of the population and the pursuit of a flexible price policy, first of all with respect to new, especially fashionable goods which are not an object of mass demand, should also be envisaged in the set of measures which are aimed at the achievement of a balance of demand and supply and thereby at the more complete meeting of the needs of people.

The broadening of the cooperative basis in the area of housing construction and in several spheres of service, the development of suburban horticultural associations, as well as the increase of the sale to the population of construction materials, garden tools and so forth are a major reserve of the accomplishment of the indicated task. These measures along with their direct purpose will also have an important social meaning. "Perhaps, it makes sense," Yu. V. Andropov said at the June (1983) CPSU Central Committee Plenum, "also to envisage the more extensive development of cooperative principles and the attraction of the assets of enterprises in construction, and not just of apartment houses, but, for example, of holiday hotels, homes for the elderly, where this is possible and necessary. This not only will be useful on the economic level, but will also help to cultivate in people a sense of collectivism, a sense of direct participation in the settlement of public matters."[6]

The specification of the methods and mechanism of the regulation of the ratio between the increase of labor productivity and the increase of wages will be of fundamental importance in the concept of the 12th Five-Year Plan. This importance stems both from the significance of the indicated ratio and from the need to overcome the leveling trends, which occurred in the recent past, and the violations of the objective law of the leading increase of labor productivity. In order to make the connection between the increase of wages and the increase of labor productivity direct, clear and effective, it is expedient to think about changing the very principle and procedure of planning the increase of wages.

Apparently, not the rate of increase of wages, but the standard of their increase for every percent of the increase of labor productivity should be established in the five-year plan. Thereby the state will assume the obligation not simply to increase wages by so many percent, but will guarantee their increase subject to the increase of labor productivity, for example, by 0.7 percent for every percent of the increase of labor productivity (individually by sectors). In case of such an approach the wage will really be earned. Moreover, it will ensure the unconditional observance of the law of the leading increase of labor productivity.

It is also expedient to be concerned that the state increase of rates and salaries and the change of wage rates would be carried out during the period which stems

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6. "Materialy Plenuma Tsentral'nogo Komiteta KPSS 14-15 iyunya 1983 goda," p 14.

from the real increase of labor productivity at some enterprises or others. In other words, it is necessary to create a preferential situation for those collectives which achieve the best end results.

The weekly payment of wages without an advance affords great opportunities for the increase of the effectiveness of material stimulation and its active influence on the improvement of the organization and smoothness of production. Unfortunately, it has not become widespread. Apparently, the extensive (and in the future, perhaps, the universal) use of this advanced and very effective form of the payment for labor should be envisaged in the set of measures which are aimed at the improvement of material stimulation.

Finally, the question of applying the standard principle to the regulation of not only the ratio of labor productivity and wages, but also as a whole the ratio of the real income of the population and the productivity of national labor, also merits attention. It is clear that society cannot consume more (including through public consumption funds)[7] than is produced. Therefore it is logical to make all the channels of the increase of the real income of the population dependent on the increase of labor productivity. This means that during the fulfillment of the five-year plan the increase of this income will be greater or smaller depending on the real increase of labor productivity. The indicated relationship could also be envisaged in the five-year plan in the form of a standard.

The concept of the five-year plan reveals not only the general idea of what has to be done, but also the basic directions of how it is envisaged to do this. The inclusion in the concept, and in the future in the five-year plan of the basic questions of the organizational and economic mechanism of the accomplishment of its assignments increases substantially the realism and effectiveness of the plans of economic and social development. Indeed, the standards of the decrease of the specific expenditures of raw materials and fuel and energy resources are an important unit of the plan. The balance of the economy and the increase of its efficiency depend in many ways on the strict observance of the mentioned standards. Nevertheless these assignments are frequently not fulfilled. And not due to their groundlessness, but because the appropriate mechanism does not exist--a system of the responsibility for the violation of the set assignments has not been elaborated, the cost accounting levers are ineffective and so on.

The situation with the increase of labor productivity is similar. Of course, it is very important to envisage assignments on its increase and to substantiate them thoroughly. However, it is no less important to envisage, introduce and adjust the mechanism which ensures the practical accomplishment of these assignments. In this case it is not a matter of what this mechanism should be, whether it requires partial improvement or radical revision--this is a special question. I would like merely to emphasize the need for the inclusion of the means of improving the economic mechanism in the concept and the five-year plan itself for the purpose of increasing its realism and effectiveness. Under present conditions this is important especially as "our work, which is aimed at the improvement and revision of the economic mechanism, the forms and methods of management, has lagged behind the demands

7. It is important to bear in mind that more than half of the payments from public consumption funds are made to the population at present in monetary form.

which are being made by the achieved level of the material, technical, social and spiritual development of Soviet society."[8]

Among the ripe measures the improvement of planning, which forms the core of the economic mechanism of socialist society, is of paramount importance. The concept is called upon to determine the fundamental directions of this work, first of all on the achievement of the complete and effective balance of the 12th Five-Year Plan (including the creation of a system of planning reserves) and on the assurance of its stability. The assignments in the area of the retooling of production and the increase of its efficiency can be accomplished and long-term economic standards can be elaborated and used in practice only on this basis.

The main directions of the strengthening and the considerable increase of the effectiveness of cost accounting, first of all in the basic unit of the national economy--at production associations and enterprises, as well as in their structural units, including the organization of brigade cost accounting--also have to be determined. When working on these questions, it is necessary to take into account both the theoretical conclusions with respect to the place and role of cost accounting and the lessons of the past period. But they convincingly attest that formalism in the organization of cost accounting and its underestimation do not make it possible to put to use the most abundant possibilities and reserves of the socialist economy and inevitably lead to the weakening of planning and contractual discipline. In conjunction with the increase of the scientific level of planning the strengthening of cost accounting is an indispensable condition of the great efficiency of the economy, its precision and good organization, the cultivation of a truly practical attitude toward public property, labor and its fruits.

Given the present level of the socialization of production and the manifold complication of economic relations the importance of the factors of good organization, responsibility and discipline has increased sharply. Their strengthening is a major reserve of the acceleration of economic growth and the increase of production efficiency. Apparently, a set of systematically implemented measures on the accomplishment of this task should be envisaged in the concept of the 12th Five-Year Plan.

Thus, the elaboration of the concept is an important unit of planning work. It makes it possible to aim this work at the accomplishment of the fundamental aims of the economic and social policy of the party. The well thought out, realistic concept of the five-year plan is conducive to the increase of the scientific level and effectiveness of planning.

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8. Yu. V. Andropov, "Ucheniye Karla Marksa i nekotoryye voprosy sotsialisticheskogo stroitel'stva v SSSR," pp 10-11.



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# CAREFUL PLAN INTEGRATION IN TECHNOLOGICAL PROGRESS STRESSED

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[Article by N. S. Mymrikov and L. S. Mymrikova]

[Text] The article examines the problems of speeding up scientific-technical progress, the mechanism for organic linkage of its goals and results with the tasks in the development of physical production as a most important prerequisite for making the economy more efficient.

1

The inevitable future result of intensive economic development is a substantial growth in the production of physical goods accompanied by stabilization and then a noticeable reduction of the total worktime of workers employed in physical production and a reduction in their number. Only this kind of economic result will reflect authentic shifts in the rise of labor productivity, which, as V. I. Lenin put it, is the most important thing for the full prosperity of a socialist economy. But the acuteness of the problem lies not only in a sharp rise of labor productivity, but also in reducing the time it takes to perform this task. Which means one of the important reasons for switching the economy to an intensive development strategy is considered to be not only the reduction of extensive factors, in particular the reduction of the growth of labor resources, but also the need for an appreciable rise in the growth rates of labor productivity in the shortest possible time, which can be done only on the basis of faster scientific-technical progress.

In recent years a formidable scientific-technical potential has been accumulated in the national economy, above all to create more productive implements of labor. There is no branch which possesses such a dynamic production structure, one that influences the development of other branches of industry, agriculture and construction, as does machinebuilding. For example, many pieces of equipment which have no analogs in the world, in particular one-of-a-kind rolling mills, machines for continuous teeming of steel, atomic power engineering, and so on, have been created. But for all the magnitude of the scientific-technical advances and regardless of the size of machinebuilding,

it is not at present guaranteeing that notable progress in production of the implements of labor that could make it possible to solve the problems of full mechanization and automation of production processes, a substantial rise of labor productivity and essential reduction of the use of manual labor in the economy. The process of creation and series production of new machines and materials sometimes take too much time, and cases are possible in which effective innovations are not applied in production at all. The reasons for this are highly diverse. In our view, at least two fundamental points deserve particular attention in the entire set of problems related to economic growth in general and to acceleration of scientific-technical progress in particular.

The first is that in the planning system the tasks of scientific-technical progress have manifestly not been brought into conformity with the role of NTP [scientific-technical progress] as the principal factor in economic growth under the conditions of intensification of production. As a consequence a noticeable slackening of attention to the problems of scientific-technical progress is inevitable in practice. The economic activity of enterprises is concentrated on fulfilling production assignments, which quite often are little oriented toward the use of innovations. Plans for application of the advances of science and technology, since they are not closely tied in with production plans, sometimes become an end in themselves. At the same time enterprises are not uncommonly restricted in their choice of alternative design-engineering features (both because of departmental barriers and also because these alternatives may not exist at all) as well as in their own resources to carry them out in practice.

The essence of the problem lies in a radical change of the role and tasks of scientific-technical progress in the adoption of planning and economic solutions to strengthen the influence of NTP on production performance.

The second point results in the fact that the changes taking place in the systems of management, economic planning, and economic and material incentives are not mobile enough, they lag behind the requirements of physical production under the conditions of the new tasks in its development. For instance, over the last decade there has been an immeasurable increase in the scale of production of minerals and other natural resources, which has accentuated the relevance of the problems of their optimum interrelated use and of environmental protection. Development of the processes of integration necessitate more vigorous creation of production (scientific-production, agroindustrial) associations, whose subdivisions are bound together by common goals--by the need to increase the production of the end products in the appropriate assortment and quality on the basis of coordinated development of production capacities, and, especially important, by the possibility of carrying out major social programs by pooling their resources. Further elaboration of the social division of labor and strengthening the interrelationship among individual production operations are dictating immeasurably more rigid requirements as to the comprehensiveness of coverage of socioeconomic problems and as to the coordination of actions of individual branches and units in the economy.

It is easy to see that the character of present-day production quite obviously requires an intersector approach to performing the tasks of its development. At the same time the clearly pronounced sectoral orientation predominates in the system of planning and managing the economy. In the economics literature attempts are being undertaken to provide the theory to substantiate the legitimacy of this manifestly paradoxical situation. According to them, under socialism an enterprise (production plant), "while it is the basic unit in the economy, has never been and never could be the basic unit in management." This view of the problems of management has to no small degree promoted the development of the departmental interest, in which performance of many tasks of the national economy is confined to a reckoning of the economic gain to the branch or sector. Yet the intersector principle of managing and planning the economy corresponds best to social ownership of the means of production and centralized planning. As shown by experience, the sectoral approach to planning production and to solving social and other problems is more inclined to bring about disproportions, to splinter the efforts of departments and enterprises, to scatter capital investments over numerous projects, to lengthen construction time and to increase construction cost. It is departmental barriers which have promoted the development of the adverse process of deconcentration in capital construction. It is they which stand in the way of more elaborate production specialization and concentration, integration of repair work, comprehensive use of natural resources, and coordination in the operation of transportation equipment, and it is they which tend to make crosshauling of freight more common and which complicate the operation of the transportation system and make it more expensive. Quite often departmental interests become an insuperable barrier to the rapid application and dissemination of effective scientific-technical innovations, and the resulting losses to the economy are especially palpable.

Use of the target-program method in planning indicates the urgent need to develop intersector principles on the road toward improving production relations. A number of important target programs have been included in the 11th Five-Year Plan. But the inclusion of such programs in state plans when sectoral planning targets are retained, has raised a number of new problems, in particular problems in setting up an effective mechanism of interrelationship between the intersector and the sectoral planning targets, between the target programs themselves, and the problem of their linkage to the "nonprogram" part of the plan, to the system for economic management of the economy. The effort to solve these problems is organically bound up with a radical change of views toward NTP so that they would promote its real importance in managing and planning the economy in full conformity with its role as the dominant factor in economic growth.

2

The appearance of an independent section devoted to new technology in state plans, which took place in the sixties, signified an enhanced role for scientific-technical progress in economic development and closer attention to the problems of speeding it up, and it reflected commencement of the transition of material production to an intensive development strategy. Alongside the practice of economic stimulation of the cost-accounting (khozraschet)

performance of enterprises, a system was developing of encouraging scientific-technical measures carried out, and appropriate funds were even set up for those purposes.

Given the growing scale and complexity of interrelationships in the economy, shortcomings in the system for planning and managing the development of scientific-technical progress are becoming ever more obvious. We note more and more cases of delays in the times required for application and full assimilation of effective innovations and a decline of mobility in carrying out extremely important scientific-technical measures, which sometimes results in appreciable losses in the economy. In this connection it is becoming an increasingly urgent necessity to establish linkage between the tasks related to development of science and technology and the cost-accounting performance of enterprises, between the planning targets for NTP and physical production, within the system of the state plan for economic and social development of the national economy.

But the question inevitably arises: Why is it that scientific-technical measures, which figure as the basis for development of production and for increasing the efficiency of the enterprise's cost-accounting activity, are poorly linked and sometimes are even set in opposition to this activity, are "bound up" in the form of a rigid plan for application of the advances of science and technology? Present-day practice in planning scientific-technical progress corresponds to the scientific views of this complicated process which has taken shape. Scientific-technical progress is often represented as an independent system relative to the elements of physical production and the cost-accounting activity of enterprises. Thus, in the opinion of some economists, the scientific-technical revolution is a special economic system which occupies an intermediate position between the productive forces and production relations. Others, who single out fixed and working productive capital, manpower and scientific-technical progress in the list of economic growth factors, are thereby separating NTP from the elements of production. Yet others represent this process as a preproduction stage and willy-nilly remove NTP outside the confines of material production.

For all the external difference among the formulations given, it is not difficult to note what they have in common: in all cases NTP is represented as something that exists outside the elements of production--the implements and subjects of labor and manpower on the one hand, and production relations on the other. Such views of NTP as an independent system have left an important imprint on the practice of planning it and stimulating it. There is convincing confirmation of this in the existence of the independent section for science and technology in the state plan and the existence of the system of material incentives for creation and application of new technology, systems which respectively have weak links with the other parts of the plan and with the system of incentives of enterprises and their collectives for fulfillment of production plans. In other words, the tasks of scientific-technical progress have been made separate from the other tasks in development of material production.

Yet the conception of NTP as an independent system presupposes that this process must have its own separate goals, resources and patterns of development that differ from the goals, resources and patterns of development of material production and of the entire economy. There are no other theoretical premises with which the present practice of separating the tasks of NTP in the state plan would be so closely connected. But what is the mechanism for their organic linkage? The answer to this question is crucial to the radical alteration of the role of NTP in the system of state planning on the basis of the most intimate linkage of its tasks with the tasks in development of material production and of the entire economy.

According to the general principle of the Marxist-Leninist dialectical conception, the development of a socialist society is based on constant improvement of material production. Consequently, in the most general outlines scientific-technical progress in the sphere of material production is legitimately viewed as a process of constant development of all its elements and aspects--the productive forces and production relations--toward the goal of higher efficiency of social production and attainment of the main purpose--raising the standard of living of the Soviet people.

There is nothing in this rather general and widespread definition of NTP that would not correspond to the views of its content shed by a majority of scientists and practitioners. But it follows from this general treatment of NTP that scientific-technical progress is materialized in new implements and subjects of labor, in labor itself of a higher order, and in a more refined system of economic relations incidental to production, to exchange of activity, and to the distribution of goods. But precisely because NTP is a materialization of ideas, there is no way that it can be located between the productive forces and production relations, since this is a process taking place in the very elements of material production, in their new attributes, which reflect a qualitative definiteness of elements that is inseparable from their quantity. For the same reason it is improper to view scientific-technical progress as an independent factor of economic growth, separating it from fixed and working productive capital.

To the same degree scientific-technical progress cannot be represented as a preproduction stage either. Nor can this proposition be altered by recognition of the fact that science, scientific-technical potential as the generator of scientific-technical ideas and as the source of NTP, is to a considerable extent located outside the confines of production because of the social division of labor that has taken shape in people's activity.

In accordance with objective logic, acceleration of scientific-technical progress in the economy pursues definite goals. The acceleration of progress is in turn realistic only if certain resources are available. And finally, performance of scientific-technical measures has as its consequence definite final production results, economic results above all.

The goals--the resources--and the results of acceleration of scientific-technical progress--those are the principal components in its structure. Each of these components is in turn a multifaceted concept. The goals of accelerating

scientific-technical progress legitimately include tasks of an economic and social character. In analyzing the makeup of the resources that guarantee a stepping up of scientific-technical progress, we must first of all refer to the sources of progress, such as science and the scientific-technical potential (discoveries, inventions, scientific-technical developments, prototypes which have been created of new materials and machines, varieties of agricultural crops, new methods of organization and remuneration and work incentives, new methods of managing and planning production, etc.). Objective logic goes further in suggesting that certain conditions must be created for application of innovations in production. The most important of them are: 1) qualitative definiteness of NTP (the novelty of the ideas, of the design-engineering developments, of the prototypes created of machines and materials, the quality of technologies and product quality, of state standards [GOST], sectoral and branch standards [OST], and technical specifications [TU], higher worker skill, and so on); 2) greater scale of application of various innovations to production and their widespread dissemination; 3) the time factor (less time required to conduct research, for scientific and technical development, for creation of new machines and materials, and for their application; less time for collection and processing of data, for the making of planning and management decisions, for the movement of passengers and freight, for construction, and so on). The appropriate material foundation is in turn indispensable both to the vigorous enlargement of the scientific-technical potential as well as to comprehensive assurance of the conditions for speeding up the rate of NTP which have been enumerated: the physical and technical facilities and experimental facilities of science and production; the financial and personnel support which scientific-technical measures require; and material incentives for their accomplishment in the economy, including pricing. And finally, the last component in the structure of NTP--the effectiveness of its influence on production and the national economy as a whole--includes the sum total of the economic, social and other results of their development.

We have given here the consolidated structure of the elements revealing the content of NTP and its problems and tasks, which are solved and performed or should be solved and performed in the system of economic planning. But even the high degree of their generalization reflects how unusually multilevel scientific-technical progress is. This great diversity of its aspects and problems, whatever we might wish, cannot be fitted into the well-known simplified models of NTP after the pattern of "new technology" or even "science--engineering--production." This multiplicity of aspects is evidence that elements of material production and the entire range of production relations, as the indispensable prerequisite of synchronous and coordinated development and of improvement of the productive forces and production relations, are equally attracted into the orbit of scientific-technical progress. What is essentially the standard set of factors in speeding up NTP at any level of management of the economy are represented among its resources (the scientific-technical potential as the source of progress, the conditions, and the material basis). It is inevitable in this connection that in various production units the significance of the particular factors in speeding up NTP may change at every level of planning, indeed sometimes substantially. On the one hand this depends on the change in the makeup and ordering of the goals and of the available resources, while on the other it depends on fundamentally new

discoveries, new engineering solutions and new technologies. By force of these circumstances it becomes necessary to alter the emphasis along the lines of progress, in the conduct of technical policy, and in distribution of capital investments to benefit the more effective alternatives of scientific-technical solutions. But by no means does this signify that, say, prospects opening up for transition to the most recent technological schemes of production make it possible to reduce the lines of NTP to one or two of its components. No new process can be realized without fundamentally new and very up-to-date equipment that suits the material and financial base, without training personnel with higher qualifications, without worker incentives, without a new organization of work, of production and of management, that is, all the other components of NTP retain their importance.

Even the highly consolidated structural model of NTP formulated as "goals--resources--results of its acceleration" indicates the systemic nature of scientific-technical progress. But isn't there a contradiction in the fact that while acknowledging the systemic character of NTP, we still must make a critical assessment of the views of progress as an independent system which have taken shape? The point is that the view of NTP as an independent system and its representation in the state plan as an independent section would have to have convincing confirmation of the existence in that process of its separate goals, resources, and patterns of development differing from the goals, resources and patterns of development of material production. As is clear from the structural model of NTP, its orientation toward a goal is effectively inherent in it. All scientific-technical measures are conducted in the economy exclusively to attain the economic, social and other goals of development of a socialist society. This means that the goals of NTP are nothing other than a reflection of the goals of material production and of the national economy, proceeding as they do from the real requirements of their development on the basis of scientific-technical progress. In other words, unity exists between the goals of acceleration of scientific-technical progress and those of development of material production, so that there is no basis for supposing that science and technology have their own separate goals of development.

An analysis of the patterns of development of the elements of material production and of the patterns of acceleration of NTP once again reveals their unity. As a matter of fact, development of the implements of labor is subject to definite requirements of objective economic laws. Let us say that the most general manifestation of the patterns of development of the implements of labor is their expanded reproduction. Progress in the implements of labor is reflected in the constant growth of the relative share of implements reproduced on a fundamentally new basic design. The manifestation of this pattern will be more complete if an analysis of the rates of movement of prices of new technology and of its use characteristics (productivity and reliability) is taken into account. It is not difficult to note that the patterns of development of the implements of labor are nothing other than the patterns of acceleration of scientific-technical progress in the same direction. The resources of acceleration of scientific-technical progress and the resources of development of physical production in all their diversity analogously have a common composition and character.

Thus an analysis of the goals, resources and patterns of acceleration of NTP on the one hand and of the goals, resources and patterns of development of material production on the other reveals their identity, their unity. Their unity occurs insofar as NTP is the most important factor in the growth of production and economic growth on an intensive basis. This exceedingly important conclusion provides the key to understanding the true place of NTP in the planning system and the pathways toward a radical change of its role in the system of management, to discovering the mechanism for organic linkage of scientific-technical measures with the cost-accounting activity of enterprises, and to increasing their influence on production performance.

The conclusion that acceleration of progress and development of material production have goals and resources in common confirms the proposition that although NTP does possess the features of a system, it is still not independent relative to the various elements of production, relative to the sections of the state plan, nor relative to the cost-accounting activity of socialist enterprises. That is why it is not legitimate to separate the tasks of scientific-technical progress in an independent section of the plan, since this contradicts the nature of this process and the connection between its tasks and the tasks of development of material production.

If the tasks of NTP are to really serve as the initial base and foundation of state planning, they must be laid down as the basis of the plan's structure. But is it possible for the numerous tasks of the present-day state plan to be combined with the tasks of NTP? A comparative analysis of the makeup and character of planning decisions and tasks of progress in their detailed representation reveals that they are highly compatible. Their combination is in fact a consequence of the tasks held in common by NTP and development of material production on an intensive basis. This combining of the tasks of the present-day plan and the tasks of NTP in fact comprises the basis of the mechanism for its organic linkage with the cost-accounting activity of enterprises and for full subordination of scientific-technical measures to the tasks of the development of production and of raising production efficiency.

We have already seen that in the structural model of the NTP the goals of its acceleration are strictly bound up with definite resources for their accomplishment. The tasks of scientific-technical progress, once they are made the basis of the structure of the state plan, impart to the plan a more straightforward goal orientation whereby every goal of society is linked closely to the specific resources required for its achievement--from the scientific-technical potential and the material and technical base to the financial backing and personnel required for scientific-technical measures. One of the very essential advantages of this structure of the plan is the possibility of standardizing planning tasks at all levels of management--from the enterprise to the national economy, since the standard set of tasks of acceleration of NTP for any branch or sector and any level of management constitutes its foundation. This standardization is called upon to guarantee methodological unity and the comprehensive approach to planning scientific-technical progress.

The essence and importance of standardization of planning tasks lies in the fact that all tasks of the same kind, regardless of what branch or sector they pertain to, must rightfully be concentrated in a single section of the plan, be they the tasks of raising product quality in any branch of production, of distributing capital investments, of renewal of fixed capital, of planning specific scientific and technical developments, etc. Here again we come to one of the most essential aspects in the possible character of the restructuring of the state plan, specifically: because of the standard makeup of the tasks of NTP which are made the basis of the plan, the latter's structure inevitably takes on a strictly intersectoral character. It would seem that the transition to the functional character of the plan is the only alternative to departmental autarky, which is not in tune with social ownership of the means of production and with centralized planning.

Nor would it be any exaggeration to suppose that only the intersector structure of the plan is capable of eliminating the squandering of resources, of concentrating capital investments on solution of the priority problems of the national economy. The intersector structure of the plan would be expected to substantially weaken (if not eliminate) departmental interests in working out socioeconomic and other problems. After all, the drafting of the plan on a strictly intersector basis signifies that planning tasks of the same kind, regardless of the sector or branch they pertain to, would be concentrated in a single section, would be performed on a single economic and methodological basis that would take into account the conduct of a single technical policy. Under those conditions the preference of one departmental interest over another would be precluded, since it would also eliminate the influence of those hidden forces which in the sectoral approach, within the very framework of state planning (or the subdivisions of planning agencies), result in an appreciable dissociation of interests, a scattering of the resources of the state, and a deepening of the disproportions in the economy.

The effectiveness of intersectoral planning and of standardization of planning tasks is also difficult to overestimate in solving the problems of production specialization and concentration, of modularization and standardization of machine parts and assemblies, and of shortening the time required for development, application and dissemination of innovations in production.

3

The lines of development of the target-program method and ways of discovering the mechanism for mutual linkage of target programs within the framework of the plan and of connecting them with the structure of management entities, etc., should be examined in the general context of the methodological foundations of improvement of state planning in the direction of enhancement of the role of the tasks of NTP in the system of management.

As is well known, the purpose of the target program in its general outlines is to increase the purposiveness and enhance the effectiveness of the use of available resources in solving society's socioeconomic and other problems on the basis of faster scientific-technical progress. A comparative analysis of the content of a number of target programs shows that they have the same

structure. As a matter of fact, every program includes the setting of goals. Beyond that, in it are reflected the resources required for achievement of those goals, in particular the character and scale of scientific and design-engineering developments, efforts to create a new model line of machines (the interrelated set of problems involved in creating and improving breeds of farm animals and farm crop varieties) and to put them into production, and so on. Provision is also made in the format of the target program for measures to strengthen physical and technical facilities, to renew capital, to provide the financial backing and personnel required for all scientific-technical, organizational and other measures, as well as for a definite system of economic and material incentives. But there is unity not only in the structures of different target programs, but also between the makeup and character of target programs and the makeup and character of the standard tasks of acceleration of NTP, which ought to comprise the foundation of the structure of the state plan. This is in fact natural, since acceleration of progress is the basis for accomplishing the target programs. Standardization of the structure of the entire set of target programs does in fact constitute that mechanism by means of which it is possible to link them together organically within the framework of the state plan. That mechanism consists of bringing together tasks of the same kind in different target programs in a single section of the plan, be they planning decisions related to bolstering the material base, to product quality, or to the distribution of capital investments. It is only thanks to standardization of the tasks that the plan will figure not as a mechanical assemblage of target programs, but as a unified organism in which all the programs, as parts of the whole, must be closely interconnected. Moreover, the state plan can and must accommodate exactly as many target programs as there are goals which society is setting itself in the given planning period, taking into account the requirements, the available resources and the means. The disputation taking place in the economics literature about the number of target programs which can be reflected in the state plan thus becomes pointless.

It is also legitimate to ask about the place of sectoral planning tasks in the intersector structure of the plan. As is well known, the problems of related production operations (or spheres of activity) are unified in comprehensive target programs by the very nature of those programs. But the existence of sectoral planning tasks in them is not done away with by any means, just as it is not possible to eliminate the qualitative differences in the character of human labor which are the basis of the division of labor. Within the framework of every program, we might take the Food Program as an example, specific sectoral tasks will be performed: say, the tasks of enlarging capacities and renewing fixed capital specialized on the one hand in the production of agricultural raw materials and on the other in the production of the end product of the industrial processing of those raw materials; the tasks of improving the quality of agricultural materials and of the industrial products produced from them, etc.

The structure of the subdivisions of planning bodies is dictated by the intersectoral structure of the plan. Since the tasks of accelerating NTP are to be the basis of its structure, the character and functions of the subdivisions of planning bodies will be fully determined by the character of those

tasks. Since the tasks of scientific-technical progress are in turn intensive factors of economic growth, the latter become the principal focus of planning within the framework of each subdivision of the planning body. This goal orientation in their activity fully corresponds to the requirements of a radical strengthening of the role of the tasks of NTP in the system of planning and managing the economy. It must become the prerogative of the personnel of each subdivision of the planning body to make planning decisions concerning the entire set of tasks of the same kind which are closely interrelated to one another, regardless of the sector or branch they pertain to. For instance, when the problems of the movement and renewal of fixed capital in the economy are concentrated in one block of the plan and they are solved exclusively in one subdivision, it is immeasurably easier to take into account the coordination of technical equipment and renewal of capacities of interrelated production operations, to substantiate and adhere to the order of priority of tasks and the order of preference in allocation of the relevant resources. Other tasks and problems will be dealt with on the same basis. Moreover, every structural subdivision will actually have a full picture of the condition of the object of "its own" planning, which would not be burdened with any departmental view, which inevitably is confined to a narrowly departmental interest. There is no point in repeating that this approach is important to further elaboration of the specialization and concentration of production, of foundry work in particular; to speeding up the development of freight-handling equipment and containers; to solving the problems of the interchangeability of machine parts and assemblies so as to take into account the requirements of the entire national economy; to performance of social programs so as to take into account the needs of equalizing the socioeconomic conditions of life for different classes and social groups of the population. Performance of the latter is today often held up, and numerous departmental barriers are not the last among the reasons (it is sufficient to mention difficulties in construction of up-to-date cities, facilities comprising the social infrastructure, arising because the funds flow disparately through departmental channels).

The structure of bodies for management of the economy that conforms to the functional criterion, whose activity would be aimed at achieving particular ultimate goals of society, corresponds in the ideal to the intersectoral structure of the state plan and of the subdivisions of planning bodies. Consequently, it is legitimate to discuss integration of the functions of related sectoral bodies of management (or their subdivisions). This process is not a simple one, and it obviously must be carried out through step-by-step reorganization of the sectoral bodies of management or of their subdivisions as intersectoral bodies. One might obviously include among the priority measures the creation of bodies related to the production of foodstuffs; to the production of common types of freight-handling equipment; to the production of containers for various purposes; to the reproduction, processing and optimum use of timber resources; to the construction of all facilities making up the social infrastructure; and to integration of transportation equipment of all types and repair work in the national economy.

There are also other views of this problem. For example, it has been proposed that committees be set up to coordinate the activity of ministries

(departments). But within the framework of formations of this kind departmental autarky, with all its adverse consequences for the national economy, is not eliminated. When this approach is taken, it is also possible for the functioning of the bodies of management to become more complicated, for there to be an increased number of levels at which various mutual adjustments must take place, and for the planning and management decisionmaking to take longer.

Alternative structures of economic authorities are possible and legitimate when the intersectoral structure of the state plan is adopted. But whatever the solution in this area, it is extremely important that the tasks to be performed in the framework of the economic authorities be standardized regardless of the character of those bodies, and that as a consequence their structure be improved on the basis of the standard makeup of the planning tasks of acceleration of NTP. This is dictated by the necessity of establishing order in economic tasks, of eliminating their duplication, of strengthening the goal orientation of the activity of subdivisions and personnel of economic authorities toward management of the intensive factors of economic growth.

As the transition is made to intersectoral planning, changes are inevitable in the system of classifications now in effect, which are today oriented toward the sectoral approach. To be specific, it is an especially urgent task to classify products not according to sector, but according to their functional purpose, according to the character of social needs they meet and taking into account the possibilities for interchangeability of products.

In the intersectoral structure of the state plan a particular role is given to science and to the scientific-technical potential as the source of scientific-technical progress. Since the structural makeup of the tasks of NTP and of the tasks of the state plan deriving from them must be standard for all levels of management of the national economy, the science section is a most important component of the plan--from the enterprise to the national economy. Planning at all levels must begin with a precise reckoning of the makeup and status (degree of readiness) of scientific-technical developments with whose use the growth and development of production in the particular planning period are bound up. It is equally urgent to improve the classification of topics of scientific and design engineering projects on an intersectoral basis. That classification should be based above all on a consideration of the unity and character of the stages of development of the scientific-technical potential and of the elements of production. The nature of their close relationship and identity arises out of the complete subordination of the former, i.e., science, to the requirements of the full-fledged development of the latter--the implements and subjects of labor, labor itself, and production relations. The existence of the standard stages of development of all scientific-technical developments, regardless of the branch or sector and sphere in which they will be used, must be used to the fullest in classifying the topics of scientific research and design engineering projects; this makes it possible to unify them within the limits of specific stages: scientific exploration, creation of prototypes of machines, materials, farm crop varieties, and so on, their experimental verification, and

application of the innovations to production. The possibilities of using scientific and technical developments in a particular planning period can be judged from the character of the stage they are in at the moment when the plan is being compiled, as the movement takes place from the scientific idea to its embodiment in production.

The requirements of intersectoral planning of science also make it very urgent to conceptualize critically the sectoral approach to organizing applied scientific research, whose results are to have intersector importance. Its basic motivation is the need to eliminate the adverse influence of departmental barriers and of the related disassociation of scientific and design engineering energies, the scattering of resources and the diminished effectiveness of science.

4

Any structure proposed for the plan and for management of the economy can be successfully realized only in combination with improvement of the methods of stimulation in the broad sense--stimulation of scientific organizations, of enterprises, of their collectives, of improvement of the policy of capital investments, of pricing, and so on. We will briefly examine some of these questions.

One can rightly suppose that in the intersectoral plan whose structure is exclusively based on the structure of the tasks of NTP, the end results of this acceleration are by their nature the end results of the development of material production on an intensive basis. In other words, unity comes about in the results by analogy with the unity examined above of the goals, resources and patterns of acceleration of NTP and of development of material production. The fact that they hold these results in common is taken up insofar as NTP is the deciding factor of economic growth on an intensive basis. The principle that the results of NTP and of material production are the same makes it possible to draw a fundamental conclusion to the effect that there should be a unified system of economic and material incentives of the cost-accounting activity of enterprises for the development of production, rather than two systems--for the creation and assimilation of new technology and for the fulfillment of production plans, systems which are weakly related to one another and even at times stand against one another. The existence of two systems of economic incentives is a consequence of the erroneous representation of scientific-technical progress as an independent system with respect to the cost-accounting activity of enterprises. In conformity with objective logic, it is not the performance of scientific-technical measures at enterprises which should be stimulated as such, but the real movement and growth of the final results based on them. That is the point of the conception of the unified system of stimulation of the cost-accounting activity of enterprises, since scientific-technical measures are not an end in themselves, but a means of improving the indicators of the cost-accounting activity of enterprises, above all of the growth of production and the rise of production efficiency. When this kind of approach is taken to the problem of incentives, a fundamental opportunity must be created for enterprises to independently select the most effective design engineering solutions for application.

Measures which do not bring an economic, social or other benefit to production, to the national economy, should not be introduced.

The possibilities of choosing effective innovations for introduction are determined both by the existence of alternatives of scientific-technical and technological solutions and of the corresponding resources, as well as by the need to establish more rigid economic limits in evaluation of the effectiveness of innovations outside which their application to production must be seen as inefficient and inadvisable. We should emphasize that guaranteeing these conditions is very problematical. On the one hand it is often not possible to choose innovations, since no alternatives of them exist; while on the other sometimes the internal resources do not exist for application of innovations which would afford the enterprise a greater freedom of action. Nor are their straightforward economic criteria for economic assessment of innovations which would serve more reliably as a barrier to ineffective scientific-technical solutions.

The active search by enterprises for innovations to apply, which would arise exclusively out of the internal needs of the development of production (and not from a plan for introduction rigidly given from above), that would suit the interests of the national economy, is a most urgent task. Solving this problem necessitates a system of economic prerequisites and conditions among which an important role belongs to the application of uniform criteria for evaluation of the effectiveness and for stimulation of new technology and for fulfillment of production plans, i.e., on the basis of a uniform system of economic incentives of enterprises for movement, for the real growth of the final results of their activity. Without touching at present on the basic aspects of selection of the criteria for evaluation of the final results, we should emphasize that solving the cardinal problem of an appreciable rise of labor productivity should have as its consequence a reduction of the total worktime of production workers and a real labor saving in production. But the present practice of evaluating economic efficiency of scientific-technical measures on the basis of an indicator of the hypothetical (relative) number of workers eliminated is not the same as an actual reduction of their number. It obscures the true situation, substitutes formal evaluations for realistic assessments, introduces an element of indeterminacy of the results in carrying out scientific-technical programs, and weakens their purposiveness. This practice in evaluating the effectiveness of NTP in the national economy does not suit the goals of increasing the efficiency of social production nor those authentic results which society legitimately expects from performance of expensive measures.

It is also extremely important to solving the problems of stimulation of the effectiveness of production to guarantee consistency among the criteria used to evaluate the results of enterprise performance, of material production as a whole and of the entire national economy.



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INVESTMENT, PRICES, BUDGET AND FINANCE

## GOSPLAN OFFICIAL CALLS FOR IMPROVED CAPITAL INVESTMENT EFFICIENCY

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[Article by V. Isayev, first deputy chairman of the USSR Gosplan: "Urgent Problems In Improving the Efficiency of Capital Investments in the USSR"]

[Text] During the present stage of creating the material and technical base for communism with its enormous scope of capital construction, the all-round improvement of the efficiency of capital investments and the shortening of the periods for their recovery are acquiring special significance. Capital investments in the national economy have reached 20 percent of the national income. The largest construction program in the entire history of the country was carried out during the years of the 9th and 10th Five-Year Plans: Fixed capital valued at one trillion rubles was commissioned, and 700 billion rubles are to be assimilated during the current five-year plan.

With the growth in the volume of capital investments the total social product and national income have steadily increased and the worker's standard of living has improved. The increase in the productivity of public work is also directly connected with this process. Each worker produces almost twice as many products in the enterprises, which have been commissioned during the last 10 years, than in those which were constructed earlier.

Capital investments -- especially in new equipment -- and the updating of technology are the effective factors in intensifying industrial production and in increasing its efficiency. Consequently, it is extremely important to determine in a scientifically sound manner and to maintain in the future a level of capital investments which would insure the steady growth and efficiency of production. The growth rates of capital investment, however, cannot be identical over the course of a protracted period. One of the distinctive features of the 11th Five-Year Plan is the fact that a faster growth in national income (18 percent) compared to the increase in production capital investments (10.4 percent) is being provided for for the first time. Such an economic decision assumes a further improvement in the technological processes of production which would permit the natural wealth to be used more rationally; raw material, labor and material resources to be saved; production losses to be decreased; and wastes to be utilized.

The speeding up of construction and the more rapid mastery of designed outputs occupy a special place among the factors for intensifying production and increasing the efficiency of capital investments.

The improvement of technologies and of the organization of construction production, the decrease of its labor-and material -intensiveness, the improvement of planning and design solutions, and the expansion of the production of effective construction materials have special importance in decreasing construction periods and in lowering estimated costs. These progressive tendencies are being considered in the plan for the 11th Five-Year Plan, and this is being realized.

The improvement of capital investment efficiency depends on the level of technical progress in a branch. Based on this, it is becoming possible to considerably simplify all construction designs (masonry, reinforced concrete and steel designs), increase their quality, lower costs, decrease labor expenditurees, and shorten the duration of construction.

During recent years, a number of our country's largest construction organizations, which are included in the Ministry of Installation and Special Construction Work, Ministry of Construction of Petroleum and Gas Industry Enterprises and the USSR Ministry of Power and Electrification, have managed to solve one of the largest scientific and technical problems -- the creation and adjustment of the output of modern steel construction designs that permit the periods for erecting production installations to be shortened. Experience in constructing many industrial installations, compressor stations and pumping plants on gas and oil pipelines, and thermal electric power stations shows that the completing of the erection of projects on time or ahead of time has become possible thanks to the use of advanced steel designs, materials and techniques; the conveyor unit assembly of buildings and structures; and progressive forms for organizing labor in general.

Construction has been organized this way at a limited number of projects. According to data from the USSR Central Statistical Administration, the time, which remains until the commissioning of the design capacities at enterprises being constructed was on the average 4.9 years at the beginning of 1982, and the average duration of construction at production projects exceeded the norm 1.8-fold. Under modern conditions, where it is necessary to update the main technological equipment in industrial enterprises every seven-eight years, the question of decreasing the duration of the construction cycle acquires especially important significance.

A number of measures, aimed at changing this situation, have been carried out during recent years. In order to expand the most effective construction methods, more than 100 steel construction design plants with an overall capacity of approximately five million tons of products a year have been constructed and are operating in the country. The USSR Ministry of Installation and Special Construction Work is assuring the production of two million tons of steel structures. In addition, the output of light metal structures for complete delivery to industrial construction projects has been mastered in its enterprises. For this, 11 plants with a total capacity of 5,413,00 square meters of buildings or 424,300 light steel structures a year, have been constructed and commissioned.

The mass production of prefabricated buildings (modules) as a set with plumbing and electrical equipment and heating and ventilating systems has been mastered in the ministry's enterprises. During 1981, 112 buildings (modules) made of light metal structures were manufactured and delivered as a complete unit by them; in 1982 -- 558; and in 1983 -- 660 buildings (modules) with an area of approximately 600,000 square meters. The use of these buildings (modules) permits construction periods to be decreased by up to three-four months.

The Ministry of Construction of Petroleum and Gas Industry Enterprises is assuring a decrease in the periods for erecting compressor stations and pumping plants, an improvement in construction quality and a lowering of costs by the widespread use of unit-set facilities. The manufacturing of block-boxes and the installation of equipment in them is being carried out at special plants and the block-boxes are being delivered in finished form to the oil and gas pipelines being constructed.

The construction of compressor stations and pumping plants using the self-contained block method permits construction and assembly work to be decreased by 40 percent on the average and construction periods -- by two-threefold; the amount of freight haulage that is connected with the delivery of construction materials and equipment -- by 2.5-fold; and estimated costs-- by 20 percent on the average.

These examples testify to the high effectiveness of the measures that are connected with improving construction production technologies.

The following data provide an idea of the reserves for increasing the efficiency of capital investments and public production as a result of decreasing the construction periods. At the end of 1982, the volume of above-norm unfinished construction alone, which was generated by the failure to fulfill the plan for commissioning capacities, was 7.5 billion rubles. If fixed capital valued at this sum had been commissioned, the country's national income would have increased by 3.2 billion rubles. A decrease in construction times of 1.5-2-fold would have permitted the unfinished construction to have been decreased by more than twofold or by 50 billion rubles, and the national income would have increased by more than 20 billion rubles or by six points a year.

In the plan for 1983, the amount of unfinished construction is 90.1 billion rubles or 73 percent for capital investments, and the amounts of above-norm construction -- 0.7 billion rubles. In order to fulfill it, it is necessary to insure the commissioning of production capacities, and housing, social and everyday services projects everywhere.

The requirement for a further intensification in construction production has been evoked by a number of reasons. First, it is necessary to raise the growth rate of national income. Second, an intensification of construction production will permit the creation of production capacities to be assured in all branches of the national economy and the non-production area to be expanded with the least expenditures of materials and in the shortest time. Third, the intensification of construction production assumes an improvement in working conditions, a growth in productivity and a decrease in the percentage of manual

and heavy physical work in which more than half of all workers are engaged in construction and assembly work. This has especially important significance under the demographic conditions that have taken shape.

The consistent shift to a primarily intensive way to develop our country's national economy is characteristic of the Eighties. The direction of capital investments is changing in connection with this. They are first of all being directed toward the reconstruction and technical re-equipping of enterprises. This must lead to an improvement in their structure. This is connected with an increase in the share of expenditures for equipment and a corresponding decrease in the amount of construction and assembly work.

The reconstruction and technical re-equipping of operating factories is in many cases more effective than new construction: A growth in production capacities is achieved in shorter periods and with less expenditures, the commissioned capacities are mastered more rapidly, manpower requirements are decreased, and raw materials are saved by more thorough processing.

Thus, the capacity for producing kapron thread is being increased by 30,000 tons in the Rustavskiy Chemical Fiber Plant by reconstruction. Compared with new construction, capital investments per 1,000 tons of fiber are being decreased from 2.45 million rubles to 1.72 million rubles, construction and assembly work -- from 1.6 million rubles to 0.54 million rubles, and the number of workers -- from 95 to 58 people through reconstruction in the "Khimvolokno" Production Association (city of Barnaul). The percentage of construction and assembly work work is being decreased from 45 percent to 31.2 percent.

It is necessary to keep in mind, however, that the effect from reconstruction can only be achieved when not only the current task for improving production are being solved but also the largescale goals in re-equipping branches and individual enterprises based on scientific and technical progress are considered. This is not always being achieved in practice. For example, only 120 of the 452 construction jobs and projects, which are primarily subject to reconstruction and technical re-equipping during the 11th Five-Year Plan, have sufficient justification for inclusion in the plan.

The USSR ministries and departments and the union republic councils of ministers are working up at the present time a schedule for developing and siting branches of the national economy and industry in which the amounts (scales) of technical re-equipping, reconstruction and expansion of operating enterprises and the construction of new enterprises in the future must be defined.

A policy of reconstruction, however, does not exclude new construction. It is impossible to insure scientific and technical progress without the erection of new capacities. For example, the construction of large enterprises for the open-pit mining of Kansko-Achinskiy brown coal is now being expanded in eastern Siberia. The labor productivity of a worker in the strippings of the Kansko-Achinskiy deposit is 25-35-fold higher than for the branch as a whole.

And it is not only because this coal deposit is unique. The fact is that advanced mining technologies, loading and transport equipment with a large identical capacity, etc., have been used for its development. Thus, a combination of extensive and intensive methods for developing the branch with the leading role of the intensive way to resolve economic problems, was found. It is necessary to say the same thing about the erection of the Krasnoyarskiy Heavy Excavating Machine Plant. We are talking about the creation of new and improved equipment which permits labor productivity to be sharply increased in one of the labor-intensive branches -- the coal industry.

Newly created capacities in such branches as the nuclear engineering industry, radio electronics, space equipment, the chemical and petrochemical industry, and a number of other branches, are playing a similar role in the intensification of production although these capacities have appeared as the result of new construction. In other words, new construction, which embodies the achievements of scientific and technical progress, is a real means for intensifying the national economy and for increasing the effectiveness of social work.

The requirement for new construction is also evoked by other reasons. More than 80 percent of our country's population lives in the European part of the USSR where approximately 20 percent of the fuel and energy resources are found. In the future, the fuel and energy branches will be developed through an increase in the mining of fuel in the country's eastern rayons. In this respect, the growth will compensate for the losses in capacities which are being caused by the decommissioning of production in the European part of the USSR. This will require enormous capital investments in new construction in the oil and gas business, coal mines and strippings and electrical power stations and in the development of energy-intensive branches of industry in the country's eastern rayons.

Large-scale water and agricultural construction is being planned in Central Asia and Kazakhstan. A great deal of work is in prospect for the erection of enterprises of the different branches in the area of BAM [Baykal-Amur Mainline] where nine territorial production complexes are being created. Here, two million square kilometers of land will be included in the economic turnover. The development of ferrous and nonferrous metallurgy, the coal and chemical industry, the production of mineral fertilizers, etc., is being planned.

The construction of the gigantic railroad line is providing an access to the forest massifs of eastern Siberia and the Far East -- a logging and wood-processing area of world importance. Whereas woodlands in the USSR are on the average 31 percent, they are up to 44 percent in the Far East and up to 54 percent in the rayons of BAM's eastern sector. The percentage of forests, which have been left stand too long in BAM's eastern zone, are 30 percent of the total reserves of wood. This permits their intensive logging to be conducted.

One of the most important tasks of capital construction in our country is the decrease in the number of construction projects that are being carried out

simultaneously and the concentration of capital investments and material labor resources. This will, in turn, contribute to the solution of the main task in the area of capital construction -- the decrease of construction periods and the timely commissioning of capacities.

It is also important to insure the timely and qualitative development of design and estimate documentation. An abnormal situation has now taken shape in a number of industrial branches where design approaches are becoming obsolete and cost estimates are significantly growing as a result of protracted designing and construction periods. Scientific and technical achievements and advanced construction technologies and organization are not always being considered in the plans and specifications. It is necessary to eliminate these and other shortcomings and to assure the fulfillment of the CPSU Central Committee and USSR Council of Ministers requirements that were stated in the well known decree on further improving design and estimate work.

Decreasing the duration of construction will permit the chance of the moral aging of projects and the necessity for their review during the period of erecting enterprises to be decreased and even completely eliminated. The conditions for improving the planning of capital investments and for a more reliable determination of the periods for commissioning capacities will thereby be created.

It is extremely important to follow a technical policy in the development of construction affairs which is directed toward improving construction production technologies and which is based on the widespread use of simplified construction designs, items and materials with high operational qualities and on the development of factories and the use of new types of decorative materials, including polymers, synthetic resins, chemical materials, items made from gypsum, gypsum board and gypsum fiber boards, extruded panels and boarding made from asbestos cement, light-weight warmth-keeping lagging, etc.

The management of construction in general and the economic mechanism, which is operating in the branch, must in particular fully assure conditions for a systematic increase in its technical level. The improvement of management's organizational structure is connected, on the one hand, with the strengthening of the centralized management of the construction of production projects and structures of national economic importance, and on the other hand, with an increase in the role and responsibility of local bodies for the insurance of non-production construction and the construction of agricultural, meat and dairy and food industry projects. At the same time, it is assumed that the schema for managing construction will be simplified, layers will be decreased, specialization will be regulated, parallelism in the work of the organizations of different departments will be eliminated, and the organizations of the main cost-accounting link in construction production -- the construction and assembly trusts -- will be strengthened and consolidated.

All of this will contribute to a further increase in the efficiency of capital investments and of all social production, to the growth of labor productivity, and to the fuller satisfaction of the demands of a person in a socialist society.



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# PRODUCTION INTENSIFICATION BECOMES MAJOR FACTOR IN PROGRESS

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[Article by A. Baranov, doctor of economic sciences: "Intensification: Present-Day Aspects"]

[Text] In the resolution of the vitally important socioeconomic problems of the society of developed socialism, an increasingly important place is occupied by the intensification of social production. The consistent carrying out of a course aimed at the intensive development of the economy will contribute to the more complete use of the opportunities afforded by the scientific-technical revolution and its last stage, which promises a technological turning point in all spheres of production.

Intensive development on the basis of the latest technology is not only a key task, but also a vitally important problem for today. The use of modern achievements of science and technology is a necessary prerequisite for the changeover to the new stage of reproduction, which increasingly acquires the features of a scientific process, in which there is a gradual elimination of the boundaries between mental and physical labor.

A peculiarities of modern economic development is either the complete exhaustion or the approaching of the limit of the capabilities of the production technology being used. The unit capacity of the activated blast furnaces in metallurgy has reached (and even surpassed) the total capacity of all the pig-iron casting units in prerevolutionary Russia. The power units being installed at thermal electric-power stations have a capacity of 1.2 million kilowatts; and at hydroelectric power stations, 640,000 kilowatts. The further consolidation of the units will require increasing labor, material, and financial expenditures, and the increase in shipments of raw and other materials, fuel, and the final output to the places of consumption.

Many traditional technological schemes are distinguished by the increased expenditure of material resources, the reserves of which are limited at the present time. We are speaking primarily of the mechanical processing of metal, wood, and other materials, with which there is an incomplete use of the raw material, an unjustifiably high formation of shavings, filings, and other production waste, as a result of which there is a low output of final products per unit of raw and other material resources.

In machine-building, the production of consumer goods, and a number of other branches, the existing methods of organizing the work of the enterprises are restraining the renovation of the output in conformity with the changing needs of productive and personal consumption.

The application of traditional technological schemes both in industry and in agriculture in many instances has a detrimental effect upon the state of the environment and necessitates the building of expensive purification structures.

Under the conditions of the increasingly acute demographic situation in the country, another factor of no small importance is the fact that the insufficiently high level of mechanization and automation of production results in the creation of large-scale industrial collectives, forces the construction around the new enterprises of large cities, and the attraction of a considerable number of workers, increasing the expenditures for social and everyday needs.

These and certain other factors determine the need to locate fundamentally new directions for the development of production, which directions, increasing the labor productivity by many times, would guarantee the economical and complete expenditure of the raw and other material resources and, at the same time, would not create any danger of polluting the environment. The intensive development of the economy, the increase of its effectiveness, and the resultant resolution of the basic socioeconomic tasks of present-day society are closely linked with the creation and introduction into the national economy of qualitatively new technology and technological schemes, primarily, effective systems for the complete automation of production, biotechnology, technological schemes with no waste products and with conservation of energy, new sources of energy, etc.

There is no insurmountable boundary between the future communist production and that which is developing today. The enterprises of the future in some branches are the progressive production entities which have outstripped in their development the other related enterprises; in other branches they are a synthesis of the production entities that are already in existence, but which have been deconcentrated to various individual enterprises; and the job consists of converting them into a single industrial complex that has been formed on the basis of the modern achievements of science and technology.

It is the duty of the workers in science and production to bring that tomorrow closer, and to no small degree this must be promoted by: the posing, in the practical situation, of the tasks of designing fundamentally new technology and the training for that purpose of the appropriate cadres of planners and designers; the formation of combined research collectives and groups that include scientists, designers, economists, and sociologists, for the purpose of creating complicated technical systems, new designs of machinery, and fundamentally new technological schemes; the working out of practical recommendations for the higher agencies of planning and administration with regard to problems of the introduction of the new technology in the national economy.

In the creation of new systems of machinery, technology, and especially entire enterprises of the future, difficulties arise and, in a number of instances, one notes the inertia in the mental processes of individual economic

workers. Therefore it is frequently necessary to be satisfied with the already known scientific-technical and organizational decisions, as has occurred with the Dolzhanskaya-kapital'naya Mine in Donbass. The proposal was made to equip it with a system of modern means of complete automation and mechanization that makes it possible to guarantee at least a 10-time increase in labor productivity as compared with other enterprises in the branch. The functions of the workers at the new mine, in conformity with the plans, were supposed to be reduced to administering the processes of the supplying of fuel, and the adjustment and repair of the equipment.

However, during the construction of the mine, the complicated equipment for the purification operations was not activated promptly. Many types of equipment for it, including automated equipment such as the Soyuz-19 shaft-drilling complex, are the equal of the best foreign models and have successfully passed their tests, but the unfinished jobs which are natural under such conditions were not eliminated on time. As a result the USSR Ministry of the Coal Industry issued the decision to start up the mine using series equipment. Instead of the 858 persons who had been stipulated by the plan, several thousand workers are currently working there.

Thus, the labor performed by the researchers, designers, and machine-builders failed to yield the expected results.

The cited example attests to the fact that, in the interests of accelerating the use of the achievements of science and technology in the national economy, it is necessary to carry out many important measures of an organizational and economic nature that were set forth in the decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Measures for Accelerating Scientific-Technical Progress in the National Economy."

At the present time, in machine-building and certain other branches of heavy industry, a considerable amount of experience has been accumulated in the introduction into industry and other spheres of the economy of the latest types of technology and technological schemes. At many industrial enterprises and associations, forms of organizing the job of making this kind of introduction of technology have been created and are being perfected. Suffice it to refer in this regard to the practical aspects of the work of Minelektrotekhprom. The branch has been carrying out a persistent search for 15 years, looking for modern methods of combining science and production, and that search has been crowned by important results. Many of the basic types of output in the branch are on a par with the present-day worldwide models.

On the basis of the leading scientific-research institutes, their branches, and the corresponding design and technology bureaus in Minelektrotekhprom, as early as 1969, there were created a number of scientific-technical centers in all the basic areas of the development of electrical engineering. They were given the responsibility for the complete resolution of the most important scientific-technical problems in the national economy and in the branch -- from exploratory research to the practical use of the developments in the national economy. At the same time there was an active process of integrating science with production. That was aided to no small degree by the transfer to the direct subordination of the enterprises and production associations of

more than half the institutes and the design and technology organizations with their retention of their administrative and economic independence.

The fundamental reorganization of the branch was accompanied by the expansion of the rights granted to the newly created associations. Several of them were given a number of the functions of the ministry in the area of planning, financing, and monitoring the rate of development of comprehensive scientific-technical problems.

At the same time closer ties were established with the scientific institutions of the USSR Academy of Sciences and the academies of sciences of the union republics, and with many of the higher educational institutions, in which problem or branch laboratories dealing with individual trends in scientific-technical progress were formed or expanded.

A lot was done in the branch to reinforce the material-technical base of the scientific centers, as a result of which the fixed production assets of the scientific-research institutes, the planning-designing, and technological organizations in 1970-1980 approximately quadrupled.

For the first time in the work practice of industry, in electrical engineering through planning and special-purpose financing of the development of science and technology were introduced. For this purpose a single branch fund was created by using the deductions from the profit obtained as a result of the introduction of the achievements of technical progress and from other sources, and payment was established for projects that were completely finished and accepted.

As a result, in the branch there was a sharp increase in the volumes of exploratory and fundamental research and an acceleration of the rates of introduction of scientific developments into production. That had a beneficial effect upon the quality of the output being produced, as is attested to by the following data. With an increase of 1.9 times in the volumes of production of commercial output in 1971-1980, the production of articles with a higher category of quality increased by 10.7 times. In the 10th Five-Year Plan alone, approximately 8000 new types of output were assimilated, and the benefit from their application in the national economy exceeded 6 billion rubles.

Considerable opportunities for accelerating the scientific-technical progress also exist in other branches of socialist industry. In many of them there is being carried out the technical re-equipping of production, and new forms are being sought and tested for combining the efforts of the enterprise workers and the leading specialists in science and technology, and the design and exploratory subdivisions, in the interests of the accelerated introduction of the achievements of science and technology into production.

The large-scale scientific-research and planning-and-designing subdivisions have leading production associations in machine-building: Uralmash, Elektrosila, AvtoZIL, etc. They resolve the large scientific-production tasks, and this provides a considerable economic benefit. In 1982 alone the number of industrial-production workers carrying out work with the aid of machinery

and the number of persons who are supervising their work, increased in the country by 480,000. In terms of one ruble of expenditures for scientific-research and experimental-design projects, the expected annual economic benefit for the group of scientific and design organizations in the industry which were studied by USSR TsSU [Central Statistics Administration] was 3.23 rubles in 1982.

At the same time, as was noted in the decree of the CPSU Central Committee and the USSR Council of Ministers, entitled "Measures for Accelerating Scientific-Technical Progress in the National Economy," the organization of that work in the country does not yet completely correspond to the task of actually combining the advantages of our socialist system with the achievements of the scientific-technical revolution. The ministries and departments, and USSR Academy of Sciences are not demonstrating the proper persistence in carrying out a single technical policy. In many ministries and departments, and at associations and enterprises, the responsibility for the technical level of production and the quality of the output produced, and the rate of increase in its competitive capability, are insufficiently high.

Many branches of production continue to experience a shortage of up-to-date highly productive equipment, machinery, and instruments. As a result it is necessary, in our opinion, to improve fundamentally the work of accelerating the scientific-technical progress. It is necessary to guarantee the production of machinery, equipment, instruments, materials, and other output that correspond, with respect to their technical-economic indicators, to worldwide models, and also to introduce progressive technological schemes and advanced methods of organizing production, and, on that basis, to bring about a substantial increase in labor productivity in all branches of the national economy.

In conformity with the decree that was previously mentioned, it is necessary to increase the role of the subdivisions responsible for introducing innovations, to increase the share of the funds that is being channeled into the production of the first industrial series of machinery, instruments, and equipment. In those instances when scientific-production associations are engaged in the creation of the new technology, their experimental enterprises, shops, and sectors must engage in their major job -- the refining of the experimental models of technology. For those purposes, the money in the single fund for the development of science and technology is being increased, and a corresponding fund and reserve at the USSR State Committee on Science and Technology are being formed for the purpose of financing large-scale state interbranch problems.

An extremely necessary and urgent measure is the development of experimental units and the equipping of them with modern means of monitoring and measurement. In the overall volume of capital investments in industry, the share of these measures is only 2-3 percent, but even these modest means are not being used at the present time,and this is causing a considerable detriment to the job of introducing the new technology.

Understanding the necessity of creating modern experimental bases, certain ministries are carrying out that work consistently and purposefully. For

example, Minelektrotekhprom has equipped powerful test beds at Tol'yatti and Istra, on which specialists are conducting the operational tests of the world's first experimental-industrial models of electrical equipment with a voltage of 1150 kilovolts of alternating current and 1500 kilovolts of direct current. The decree of the CPSU Central Committee and the USSR Council of Ministers that was mentioned provides for: the carrying out of a series of measures aimed at overcoming the lag in the creation and technical equipping of experimental bases and production entities in the branches of the national economy; the inclusion in the five-year and annual plans of assignments for the construction and activation of experimental plants, production entities, shops, sectors, test beds, and bases; the prompt and complete use of the resources allocated for those purposes, and the use of those resources for the purposes for which they were intended.

An important prerequisite for the acceleration of scientific-technical progress is its special-purpose program planning. The creation of up-to-date complexes of technical means, the development of a fundamentally new technological scheme, cannot be carried out within the framework of a single scientific-research center, even if it is the most large-scale one. As a rule, the participants in this work include dozens of institutes in various areas of specialization, and people with the most diverse specialties -- technologists, machine-builders, metallurgists, chemists, etc. Their efforts can be united only by an integral, completely coordinated comprehensive program, within the confines of which all the co-executors, regardless of what department they belong to, are subordinate to the single will of the chief executor -- the project manager. He must be given the appropriate powers, broad rights, and the opportunity to manage all the resources that are being allocated for the particular program. Therefore the resources must be concentrated in a single fund, irrespective of what department they were previously allocated to, or the purposes for which they will be used. Otherwise numerous coordinations will be inevitable. Incidentally, therein lies one of the chief reasons why certain of the special-purpose programs that were prepared in the past five-year period were not implemented on time.

The experience that was accumulated in previous years in many branches of industry has shown that special-purpose program planning assures the acceleration of the entire process by which the scientific idea travels from its origin to its practical realization, in the form of completely finished sets of machinery, instruments, and equipment. The resolution of this task is facilitated by the fact that the scientific-technical programs are becoming an organic part of the plan for economic and social development and are receiving more complete material and financial support. In turn, this places a responsibility on the persons who prepare them, who are required, when developing programs, to include in them the actually fundamental problems of the technical re-equipping of the branches, problems that guarantee the cardinal increase in labor productivity and changes in the overall outlook of production with the consideration of the achievements of science.

The carrying out of the tasks set forth by the decree of the CPSU Central Committee and the USSR Council of Ministers, "Measures for Accelerating Scientific-Technical Progress in the National Economy" will promote the strengthening of the

intensive trends in the socialist economy. It would be desirable for the principles that have been stipulated in it to be supplemented by measures involving the intensification of the investment process, and the fundamental improvement of capital construction, because it is only in the process of the creation of new enterprises and the fundamental remodeling of the existing ones that one sees the complete realization of the achievements of modern science and technology. It has also become vitally important to accelerate that process at the level of the individual regions, where it must encompass such problems as the comprehensive development of the economy in the republics, krays, and oblasts, the protection of the environment, and the creation of a progressive infrastructure.

Scientific-technical progess is the chief factor in the intensification of production. But something that is no less important is its social aspect. Under socialism scientific-technical progress, like all the other components of the intensification of production, is being subordinated increasingly to the interests of the harmonious development of the Soviet citizen. ". . . However multifaceted the tasks that confront the Soviet economy are," Yu. V. Andropov has emphasized, "they all finally fuse into a single task -- the guaranteeing of the rise in the standard of living of the workers, the creation of the material conditions for the further flourishing of their spiritual, cultural life, their social participation. . . It is obvious that a very great deal of our success in this regard is determined by our approach to the increasing of efficiency in production and to its intensification"*.

The production process is the process of transferring that which is natural to that which is social. By creating a system of machinery and the entire totality of material-technical means for various types of activities, production strengthens the intellectual and practical (in the sense of the application of physical labor) experience of society.

To a determining degree, production exerts an effect upon the formation of the worker, the chief productive force. It is only in the process of joint labor, the unification of the workers into large-scale production enterprises, that one instills such worker qualities as collectivism and high spirit of discipline and develops the worker's creative capabilities, and the worker himself develops as a completely rounded individual. The method of production, K. Marx noted, is not only the reproduction of manpower. "To an ever-greater degree," he wrote, "it is the definite means of activity of the particular individuals, a definite type of their vital activity, their definite way of life. Whatever the individuals' vital activity is, that is what they are themselves. . . What the individuals are depends, consequently, upon the material conditions of their production"**.

Production also plays the decisive role in the cognition of the laws of nature. It is a mighty means of using them in the interests of communist

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* Yu. V. Andropov, "Ucheniye Karla Marksa i nekotoryye voprosy sotsialisticheskogo stroitel'stva v SSSR" [The Theory of Karl Marx and Certain Questions of Socialist Construction in the USSR], Moscow, Politizdat, 1983, pp 12-13.

** K. Marks [Marx], F. Enge'ls [Engels], "Soch." [Works], Vol 3, p 19.

construction. Thus, under conditions of socialism, it is the creation of the basic material conditions for the life of society and at the same time the material base of its collective organization, the growth and development of communist forms of social progress, and exerts an effect on the workers and all the members of society both directly, in the process of labor, and by means of the material blessings being created. "The method of production of material life influences the social, political, and spiritual process in general"*.

At large-scale agricultural complexes -- Kuznetsovskiy (Moscow Oblast), Novyy Svet and Pashskiy (Leningrad Oblast), and Il'inogorskiy (Gorkiy Oblast) -- which are completely on a par with modern industrial enterprises, as a result of the introduction of systems of machinery and equipment there has been a sharp change in the nature of the labor process, an increase in the number of occupations requiring secondary and higher education among the workers, an increase in the prestige of labor, and a larger influx of young people into production.

In industry the application of modern technological schemes has been sharply changing the nature of the labor process, intensifying its creative aspects. An example of this is provided by automated production, elements of which find application in various branches of industry. At the present stage of their development they already make it possible to reduce the share of people's participation in the production of output to less than one-third. The main machine-building occupations are now operators of electronic equipment, electronic-computer adjusters, specialists in precision mechanics and precision electric drive. At the Institute of Cable Industry, Minelektrotekhprom, at one of the production sectors, people with higher technical education are engaged with flexible technological schemes. The modern worker must possess that level of knowledge. Freed from heavy physical labor, he gets a broader and broader range for his creativity, for the demonstration of his initiative in improving the process of labor.

In and of itself, the nature of modern large-scale completely mechanized and automated production presupposes high labor discipline: any interruption in the course of the production process can lead to a large material or psychological damage. Therefore it is necessary to create those conditions that would encourage high-quality, productive labor, initiative, and personal enterprise and at the same time would preclude poor work, inactivity, or irresponsibility in production. Violations of production and labor discipline must be directly reflected in all respects -- in the workers's official position, in their moral outlook, and their material reward.

That is why the party's requirements concerning the intensification of precision in the work of all links of the production and administrative mechanism, and the recently enacted decrees dealing with the reinforcement of labor discipline, have met the understanding and support of the Communists and all the workers.

Developing production by the intensive method in the interests of the workers means, in addition to highly productive and conveniently operated technology,

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* K. Marks, F. Engel's, "Soch.," Vol 13, p 7.

improving the practice of distributing its economic benefit with the purpose of resolving the vitally important sociopolitical tasks of the society of developed socialism, which is linked primarily with the improvement of the production and cultural-everyday conditions of the workers and the raising of their standard of living. In the socialist society there are no social forces that would subordinate production to self interests of private ownership, that would hamper the humanitarian directedness of the intensification of the economy. It is accompanied by the increase in the workers' real income, by the development, in addition to the production enterprises, of projects in the infrastructure -- housing, schools, cultural and everyday institutions, trade enterprises, modern roads, and means of communication. During the past 12 years alone (1971-1982) in the RSFSR, apartment houses with a total area of 720 million square meters have been activated, thus making it possible to improve the housing conditions for 70 million persons. There has been an improvement in the quality of housing, and the level to which it has been provided with all the amenities. A large amount of work is being carried out to beautify and remodel the cities and villages and to create there the conditions that correspond most completely to the material and cultural needs of Soviet citizens.

Something that is becoming a peculiarity of the intensive economy is the complete development of the national economy of cities, villages, oblasts, krays, and republics, which, in addition to the achievement of the completeness of economic processes and the complete and comprehensive use of the varied resources of each part of the country, makes it possible to resolve successfully the varied socioeconomic tasks of the society of developed socialism. Agencies that are becoming active participants in that work are the local Soviets of People's Deputies, which have been granted broad rights with regard to the complete development of the territories subordinate to them. In order to carry out those functions they must have the necessary resources at their disposal. One of the ways to resolve that task is to accumulate on the income side of the budgets of the local Soviets some of the profit not only of their subordinate enterprises, but also of all the other enterprises that are located on their territory. At the present time such deductions in certain oblasts, krays, and republics are small, and this has been hampering the mobilization in sufficient degree of the additional resources for the development of projects for the production and social infrastructure and has been reducing the economic self-interestedness that the local agencies of administration have in the results of the work performed by the enterprises of union and republic subordination. The concentration of that work under the jurisdiction of the local Soviets is of no small economic importance, inasmuch as it makes it possible to preclude the creation of small-scale departmental housing, transportation, everyday-services, and other enterprises, the maintenance of which is very expensive for the production people as a result of their unoptimal size, the low level of labor productivity of the workers as a result of the lack of the necessary means of mechanization, the large percentage of administrative personnel in the total number of workers, etc.

Peculiarities of the present-day stage in communist construction are the further reinforcement of the relations of comradeship and mutual aid among the workers of socialist production, and the broad scope of the competition, which is taking on truly nationwide features. In the development of the labor rivalry of the

workers of the national economy one can see the clear manifestation of their high creative participation in the struggle to implement the plans for economic and social development and their concern about taking all steps to increase the might of the Country of Soviets.

The social aspect of intensification has one more important problem -- the establishment and maintenance at the optimal level of the intensity of labor. The intensity of labor is its quantitative definiteness, a measure of the labor. It characterizes the labor expenditures per unit of time. A change in the nature of the work and in the mechanization of labor, its prompt organization, the complete accounting of the ergonomic requirements when creating new technology and technological schemes are time-tested means of systematizing the degree of labor intensity. Within the framework of the socially normal limits, the latter acts as one of the conditions for the increase in labor productivity. High individual output in production cannot be achieved unless a person gives himself completely to the job at hand and displays a willingness to execute orders on the job. By speaking out against lack of organizational spirit and arrhythmia in production and in favor of the introduction of the scientific organization of labor, we thus lay the foundation for a future, communist labor.

Intensification is the motivator of the reproduction process. It reflects the basic economic relations of people with regard to ways, means, and methods of carrying out expanded reproduction in conformity with the latest achievements of science and technology. In addition to the workers in material production, the persons taking active part in it include scientific figures and associates of planning and economic agencies of the socialist state who are responsible for the implementation of economic and investment policy, the efficient organization of production and labor, and the resolution of the vitally important social problems of every stage of the development of production. The successful interaction of these direct participants in the process of socialist intensification guarantees its benefit, scope, and rates of development. The taking into complete account of the natural laws underlying the objective process of the intensification of production in everyday practice takes on tremendous importance for developing and carrying out a scientifically substantiated economic and social policy and the resolution of the tasks of the further improvement of developed socialism.



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